



in park

MAGAZINE

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Polin unleashes technology on waterparks



Volcano Bay erupts

Orlando's newest waterpark draws crowds and changes the paradigm

Flying high

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It's elemental

**Martin Palicki,
IPM publisher**



As we have discussed in InPark before, we are creatures drawn to water. But we are also enthralled by the sky, seeking the thrill of flight and looking out above the clouds. We also love racing alongside the ground, feeling wind in our faces.

As an industry, we have relied on the elements of water, wind and earth for excitement from the start. And in this issue of InPark we delve into them all.

Flying theaters exemplify our fascination with flight. And with new projects recently opened in Europe joining established locations in North America and Asia, flying theaters are becoming ubiquitous in the entertainment arena. We look at how the latest in technology has impacted both the development and operation of such venues.

Similarly, we look at two of 2017's popular new roller coasters and how the elemental thrill of speeding along tracks close to the ground is enhanced with theming and storytelling.

Finally, it is clear that water seems to be most effective when it is part of the mix. Waterparks are a natural complement to a theme park. Volcano Bay transformed an underutilized portion of land at the Universal Orlando Resort into a successful third gate. The LEGOLAND Waterpark at Dubai Parks & Resorts similarly provides an alternative to the other three theme parks on the property, and by my own personal observations, seems to be one of the more popular locations on the property.

The elements together are what create successful visitor attractions, and our continued treatment of these elements in new and exciting ways is what will keep our industry evolving and growing for years to come.

Game changers

**Judith Rubin,
IPM editor**



The theme of this issue is “Game Changers” but in truth, game changing has always been the name of the game in this industry. Not only must providers and operators compete with one another, they collectively must compete with in-home entertainment.

The game changers and leaders of the themed entertainment industry are very distinguished indeed, considering they stand out in a business community that is, by nature, driven to constantly innovate, re-invent and re-invest.

In an atmosphere of constant change, there are constants. Companies of long standing re-invent themselves and their offerings, and maintain their position as leaders. Designers, producers and specialists continue to hone their craft, pick up new tools, and collaborate on projects that raise the bar every time. New players come into the mix. New genres of attractions and new approaches to development emerge. Tradition and innovation, experience and experimentation are partners, always.

There's no standing still. Everyone has to hit the ground running, and keep on running.

At InPark Magazine we have remained competitive as well. We keep up with you – the members and game-changers of the industry we serve - by keeping our eyes and ears open, and staying engaged with the people, companies, products, projects and trends of the themed entertainment space.

The original content that InPark publishes for you – in print, online and via social media - represents decades of experience covering the industry and facilitating the exchange of information in a useful, business-to-business context.

We're pleased to have welcomed several new contributors this year, and will continue to do so as we grow and adapt along with the industry. We'd love to hear from you.



COVER: The Amaazia Water Park in Surat, India features a collection of Polin Waterparks attractions. **p 50**



Joe Kleiman is News Editor for the InPark Magazine website. He has over 20 years management experience in the attractions and giant screen film industries and as a zookeeper, cared for animals ranging from penguins to rhinos.

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Waterpark market update

Martin Palicki speaks with **Aleatha Ezra**,
World Waterpark Association Director of Park Member Development

The waterpark market is thriving. New construction abounds and growth has already been steady. We spoke with Aleatha Ezra about the latest industry trends and the annual WWA Show (Oct 16-19, 2017 in West Palm Beach).

Please bring us up to date on WWA and its activities.

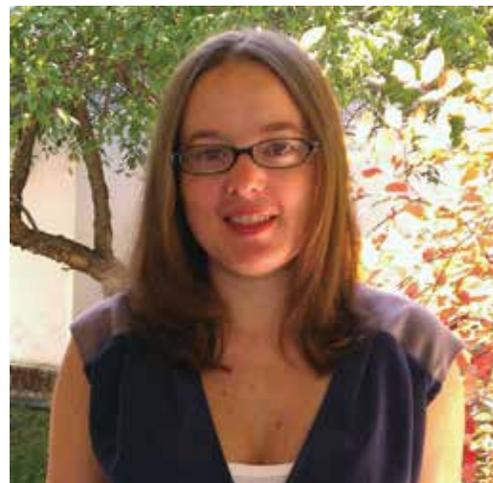
The year 2017 already been a busy one for the World Waterpark Association. In addition to organizing an outstanding WWA Show experience for October, we've also been focused on our goals for the World's Largest Swimming Lesson (WLSL) event, an important water safety awareness program with a global reach.

In 2017, we launched a completely redesigned WLSL.org website with a translation feature to allow host locations to find event materials and register more easily, and to give us a fresh way to promote the event internationally. The new WLSL website has had an extremely positive impact: 41,000+ participants attended live WLSL events this year in 26 countries; both those numbers are increases over 2016. In addition, the event generated more than 300 million media impressions in support of the Swimming Lessons Save Lives™ message. We are very close to achieving our goal of 1 billion media impressions before our 10th year anniversary event in 2019.

Beyond our own goals for WLSL, we are happy to see that this event and others are making a difference. Research released from WLSL supporting organizations, CPSC's Pool Safety Campaign and USA Swimming Foundation, which also initiated water safety awareness programs in 2010, indicate a decrease in childhood drownings and an increase in swimming skills. But, we know that more work is needed. In 2014, the American Red Cross, another WLSL supporter, found more than half of all Americans (54 percent) either can't swim or don't have the basic necessary swimming skills.

How do you advise WWA members to get the most out of their membership?

One of the big benefits of today's digitally-connected world is we can now offer our members programs that are accessible on their own schedules. Before our 2015 show, we launched a new Waterparks.org website, which offers our members the opportunity to access popular member-



Aleatha Ezra

benefit programs, such as the Webinar Wednesday online learning series and the Job Board, at any time. In addition, membership in WWA is facility-based. The benefit there is that whether a facility has five or 500 employees, everyone on that park's team can take advantage of member benefit programs. Also, most programs are included in the yearly membership fees, so there are not a lot of additional costs involved.

Of course, we encourage all of our members to keep their rosters up to date so that everyone on their team will receive our emails and hear industry news and updates. Members can update their own rosters online anytime by logging in and accessing their My WWA page, or they can call us at +1-913-599-0300 and update it by phone.

What industry trends are you noticing?

New development projects are returning full force - with large-scale, mixed use development taking place all over the world. Within North America, it is exciting to see many new waterpark projects taking shape. From Typhoon Texas in Houston, opened in 2016, to much-anticipated projects in 2017 like H2OBX Waterpark in The Outer Banks, North Carolina [see article on page 42], Universal's Volcano Bay in Orlando [see article on page 58], and Hurricane Harbor at Six Flags in Oaxtepec, Mexico.

We are also finding many parks are using established intellectual property to create unique and fully integrated

theming throughout a facility. Theming, in general, has really become important and readily available to developers. Strong theming allows guests to create memorable interactions within the park, which can lead to stronger brand attachments and repeat visits.

Another trend is the focus on accessibility within park operations and guest services. Waterpark operators are trying to address the needs of more guests, and they are spending more time implementing procedures that accommodate guests with various physical and cognitive disabilities. Also, new attractions are being created that enable higher quality interaction for guests with different abilities.

In what regions do you foresee the most growth in the next 5-10 years?

According to the information in the latest TEA/AECOM Theme Index, we can expect to see slow and steady growth in the waterpark segment in most existing markets around the world, from North America to the Middle East to Europe in the next few years. Specifically, the report states that regions such as Latin America and Asia will continue to see the greatest number of new developments, thanks in part to climate conditions in Latin America and economic factors at play in many areas of Asia, especially China. Several key factors will help reinforce new development. First, waterparks require less space to build a good-sized facility. Second, they can be built more quickly and at a lower cost than theme parks and other types of leisure attractions.

How do you advise your members to deal with perceived safety concerns?

Safety is our industry's number-one priority and we know that the majority of operators are focusing on guest and employee safety, from opening to closing every day and every season of operation, in order to ensure that each person leaves the park safe and happy.

Like any industry, we cannot make ourselves immune to negative coverage. However, what we remind our members to do is to stay focused on all the big and little things they do to maintain the safest operation possible.

Tell us what we can expect from the 2017 WWA Show in West Palm Beach, Florida.

We are excited to take our show back to West Palm Beach. Not only can we expect beautiful, sunshine-filled weather, but the show location is even more convenient than when we were last there in 2013. A newly built hotel that is

connected to the Palm Beach County Convention Center promises to make the attendee experience even more seamless. This year's attendees will be able to easily access sessions, the trade show floor, shuttles to events, etc., all within a few steps of their rooms. Also, the hotel will be filled with WWA attendees, maximizing the opportunities for additional networking. You'll run into key contacts everywhere. Plus, CityPlace is literally across the street, which means that folks can find good food choices, evening entertainment and more all within walking distance. More show venue details are available at: <https://www.wwashow.org>.

What are some other compelling reasons to be sure to attend WWA 2017?

First reason: to stay competitive. Our industry is constantly evolving. Owners/operators need the chance to hear more about the latest challenges and trends and be ready to grow as the industry grows. If people aren't focused on keeping their guests safe and excited to come back to the park time and again, then they will not be able to sustain their business in the long term. There's a lot of competition for people's leisure entertainment dollars. Waterpark operators must be able to set themselves apart in meaningful ways so that they can continue to grow their brand.

Second reason: to stay connected. The WWA Show is a place for connection. We are fortunate enough to work in an industry that values community and collegiality. When you attend the show and make a new connection, more often than not that person will become a trusted resource. Our members like to share successes and failures with each other. They enjoy learning from one another and passing along what they know to those who are coming up through the ranks. •



WWA's busy trade show floor features a variety of industry vendors and is also home to lunch each day. Photos courtesy of WWA



Thrilling slides & relaxing tides

WhiteWater celebrates Parque Warner Beach & Morgan's Inspiration Island
by Dawn Kirby (WhiteWater) and Martin Palicki

Water soothes and water invigorates. It follows that waterparks have long been a blend of relaxation and thrill, both lazy river and speed slide. This is evident among all sizes of parks and all types of water facilities. At the annual EAS and WWA conferences, we see how the industry touches everything from small gyms and pools to cutting edge cruise ships. Both vendors and operators have increasingly focused on ways to meet thrill factors while also providing calming spaces, all with an eye towards increased accessibility.

Two recent projects highlight these diverse recreation needs that water attractions serve. Parque Warner Beach, just south of Madrid, Spain, opened an expansion on their waterpark initially built in 2014, as part of the Parque Warner Madrid resort. While the 2014 waterpark featured Looney Tunes and other popular IP in its array of attractions, the 2017 expansion focuses on increased thrills with two towers' worth of rides themed to Justice League heroes and villains.

Contrast that with the recent opening of Morgan's Inspiration Island, a waterpark expansion of Morgan's Wonderland in San Antonio, Texas. Both parks are

dedicated to providing people of all abilities access to fun and enjoyable attractions. Both are the brainchild of Gordon Hartman, whose daughter Morgan inspired him to make accessibility a key focus of the projects. The new, \$16 million waterpark features six tropical themed areas with attractions designed to delight and comfort guests who may otherwise have difficulty participating in traditional waterpark activities.

Both Parque Warner Beach and Morgan's Inspiration Island include attractions provided by WhiteWater. Here, the company shares additional insight into the development of the projects and what makes them unique within the spectrum of water recreation.

-M Palicki

Parque Warner Beach

By Dawn Kirby, WhiteWater

The use of IP in waterparks has been growing in recent years and Grant Poje, WhiteWater's Regional Vice President for Europe, Russia, and Africa considers Parque Warner Beach to be a leader in that regard. "The IP in the initial park was an effective integration of IP-based

theming in a waterpark environment, and at that time it was still very new to the industry,” said Poje. “Now they are taking additional IP and applying that to thrill rides in the park.”

The Parque Warner Beach addition was a success for Parque Warner, making it an easy decision to expand. “Our Warner Beach expansion has shown steady growth since opening, and knowing that we needed to add something new to appeal to the teen demographic, this seemed like the perfect time to expand on our Super Heroes World,” said Diego Gracia, Parque Warner’s General Manager.

WhiteWater provided two slide towers, each with several attractions. The Batman-themed slide tower features The Joker, a saw-toothed Super Bowl slide that sends riders on inner tubes spinning around its purple and green bowl before churning them out the bottom. The other two slides are both four-person, family raft rides: a Harley Quinn serpentine slide with both open and enclosed sections, and a black and yellow, Batman-themed AquaSphere and Rattler fusion, which also points to the continued popularity of hybrid rides.

The second tower is home to Superman and Wonder Woman and showcases three more thrilling slides: a four-lane Mat Racer in Superman’s colors, where riders speed head first on mats as they race to the bottom, an exhilarating Flatline Loop that starts riders off by having

the floor drop out from under them so they plummet near-vertical before shooting around a 360-degree loop, and a daring inner tube slide with dizzying twists and turns, giving riders the chance to feel the speed of a flying Wonder Woman.

According to Gracia, Parque Warner Beach turned to WhiteWater for their expansion because “other parks within the Parques Reunidos Group already had successful partnerships with WhiteWater and we knew that WhiteWater had the quality and price to meet the needs of our project.”

With their newest expansion, Parque Warner Beach is happy with the mix of attractions they have to offer their guests. “In my opinion we now have a great variety of attractions with the two areas, but of course, there is still enough room to continue adding new attractions in the future,” remarked Gracia.

Morgan’s Inspiration Island

Since its opening in June, Morgan’s Inspiration Island has been visited by guests from around the world, eager to experience the world’s first ultra-accessible splash park, designed to be inclusive of all cognitive, physical, and sensory abilities so that 100% of its guests can experience the joy of play.

Opposite: The Batman themed slides at Parque Warner Beach. Below: A child enjoys the tropical themed splash pad at Morgan’s Inspiration Island. Photos courtesy of WhiteWater.



The park features five custom-themed, fully-inclusive Splash Pads and an ADA accessible Water Transportation System, all from WhiteWater. The park is organized around six areas:

Rainbow Reef is a warmed-water splash pad, designed for guests of all ages that may not be able to tolerate regular water temperatures.

Calyпсо Cove is a music garden splash pad with a large tree with rain-curtain effects cascading from its branches.

Hang Ten Harbor, a surf-themed splash pad, features a continuous, 20-foot-diameter rain tree with a surfer and his dog catching a wave on top.

Shipwreck Island centers around an accessible pirate ship with water cannons, a double slide, and a giant dumping bucket on top.

Castaway Bay is anchored by a jungle-themed treehouse surrounded by monkeys and tropical birds, featuring a “Kids Only” water fort.

River Boat Adventure is a twisting and turning jungle journey through more than an eighth of a mile of the park and uses a redesigned water transportation system which

is easily accessible for anyone in a wheelchair or with differing physical abilities.

“No detail has been too big or too small, from adding a specially-designed spiral graphic to tipping buckets (so that hearing-impaired guests will know when to wait for the downpour of water) to sourcing waterproof wheelchairs for guests,” said Paul Chutter, WhiteWater’s Chief Business Development Officer. “It’s been inspiring to see how much care and consideration the people at Morgan’s have put into this park. Their level of dedication has touched everyone involved in this project and motivated our team to meet their ingenuity and enthusiasm.”

“When you talk to the folks here at WhiteWater who have worked on Morgan’s, they all talk about how honored and fortunate they feel to be a part of something so worthy and special,” explained Chutter. “I think it’s a feeling shared by our entire organization.”

It’s not just WhiteWater that has been inspired by Morgan’s. The recently announced Playground Adventures will be a fully-inclusive and fun playground for all ages and abilities when it opens in the summer of 2018 in Grand Prairie, Texas. •

For more information on these projects and more, visit www.whitewaterwest.com.

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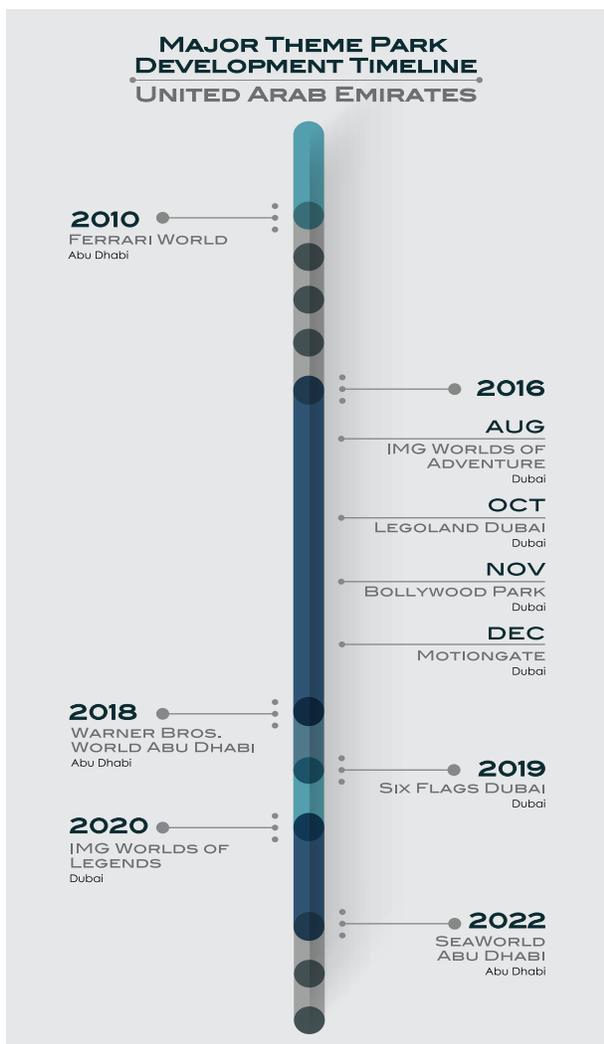

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BOLD VENTURES



IPM Exclusive! Snapshot of the EME sector from two leading industry economics experts
by Matthew Earnest (Entertainment + Culture Advisors) and Lesley Morisetti (Morisetti Associates)

Europe and the Middle East (EME) continue to develop leisure attractions, with multiple new theme parks opening in the United Arab Emirates (UAE), expansion of existing theme park destinations in Europe, and overnight accommodation options integrated into zoos and animal parks. While the largest IP-led pipeline project in Europe faces challenges, smaller scale IP and brand led attractions have found success both as independent attractions and through opportunities for licensing with leading operators such as Merlin Entertainments Group and Parques Reunidos.



In the UAE, fast-paced resort development brings challenges

The UAE continues to be the most active attraction development market in the region. Four parks opened in the second half of 2016, starting with IMG Worlds of Adventure in August and quickly followed by Dubai Parks & Resorts' LEGOLAND Dubai, Motiongate, and Bollywood Parks between late October and mid-December. For most of these parks, this was a soft opening with some rides and park areas still in development.

This simultaneous introduction of multiple, large-scale theme parks in a single market is unprecedented and departs from the traditional development model for a multi-gate, destination theme park. The traditional model has been to start with the introduction of a single anchor theme park, and then to introduce second (and subsequent) theme park "gates" later after the destination is established and the market is educated and tested.

For example, the fastest introduction for a second gate within a Disney resort was 10 years (Paris). Universal's Island of Adventure was introduced nine years following the opening of Universal Studios Florida. Disney's latest resort in Shanghai opened with a single theme park gate. Even when considering all parks across multiple operators in Orlando, the world's largest theme park market, no two large-scale parks opened in the same year from the 1971 introduction of Disney's Magic Kingdom to the 2011 opening of LEGOLAND Florida.

This accelerated time frame is a deliberate strategy by the UAE government to aggressively add attraction supply (along with in-bound travel and hospitality capacity) to tilt the gravitational pull for global leisure travel and drive long term economic gains from this large-scale destination tourism infrastructure. With this strategy, however, the near-term risk is under-utilization of the parks while awareness within the global leisure market is still building. Already, there are signs of the challenges of building attraction supply beyond the current market demand. Attendance volume is lower than projected and there are learning curves for operators that are tackling early market and operational challenges, as well as for local resident and tourist segments that are visiting destination theme parks for the first time.

As the UAE market absorbs the current parks, it also faces the largest theme park development pipeline in the region. Warner Bros. World Abu Dhabi, a USD 1+ billion park, is expected to open next year on Yas Island, Six Flags Dubai is planned as a fourth gate at Dubai Parks & Resorts in late 2019, and IMG Worlds of Legends, a 2 million square foot expansion with IMG Worlds of Adventure, is planned for 2020. Following Dubai Expo 2020 (a six-month world's fair), a SeaWorld Park is expected in 2022.

Creating destination resorts at existing parks

Outside of the UAE, in particular in the more mature European markets, growth is being driven through the expansion of on-site accommodation and the addition of new, large-scale second gates to existing destination resorts.

The highest profile addition is the new Ferrari Land park outside of Barcelona, Spain. This USD \$100+ million project adds a third gate to the PortAventura World Resort, making it the only three-gate theme park resort in Europe. While the new park is separately ticketed with a hotel pass, it is positioned primarily as a new combination ticket option for PortAventura visitors. Looking ahead to planned projects, water parks and new hotels will be added to Europa-Park in Germany and Liseberg in Sweden. A Water Adventure Resort and new themed hotel are planned for Europa-Park in 2019 as the first phase of new development on a new 46-hectare site off the main access road. The Liseberg additions are planned for 2021, with the waterpark planned as a year-round, indoor facility.

While there are also some new parks being built in Europe, most are relatively low investment with the exception of Poland. The development of a destination theme park has long been discussed for the country and the first phase of Holiday Park Kownaty on the Poland/Germany border is due to launch later in 2017 with the



Guests enjoy the themed environments at IMG Worlds of Adventure in Dubai (above) and Motiongate park at Dubai Parks & Resorts (opposite). Photos by Paul Williams

opening of Plopsa's Mayaland. Future phases include an extreme sports park and on-site accommodation.

Sleeping with the animals

Theme parks are not the only attractions recognizing the benefits of extending their visitors' length of stay through the addition of on-site accommodation. One sector that has been particularly successful at doing this is Zoos and Animal Parks. By building lodges into the walls of animal enclosures, these attractions are providing guests with unique opportunities to get 'up-close' to the animals. An early adopter of this was Zoo de la Flèche, in France, which in 2013 launched an initial test of themed safari lodges located within the zoo perimeter, with direct views into animal enclosures such as the wolves and tigers. Other zoos and animal parks have since added on-site accommodation, including the recently launched Tiger Lodge at Port Lympne, in the UK.

While the development and operating costs of these specialized hospitality units can be high compared to more standard accommodation concepts, the relatively low number of units typically developed by zoos and animal parks and the price premium which can be charged for such unique access to their animals, has made this a commercially successful format for several operators.

Challenges of mega-park development in a mature market

The most ambitious pipeline project in the EME region, the USD 4+ billion London Resort project, continues to face challenges. Earlier this year the CEO was replaced and more recently the project developers parted ways with Paramount Studios, the longtime lead IP for the studio-

park project. The project still has IP agreements with the BBC and Aardman and is looking to add other IPs. The site in Kent is well located and London presents a great market opportunity with its large resident population and high tourism volume, particularly international tourism that currently exceeds 19 million visits annually.

Brand experiences continue to excel in Europe

Licensing to traditional attraction operators is no longer the only option for IPs and product brands looking for opportunities in location based entertainment. Increasingly, brands are creating their own, independent attractions and Europe is leading the industry with the introduction of branded attractions that attract large attendance.

Corporate visitor experiences have had success in Europe for some time. For example, the first LEGOLAND Park in Billund, Denmark evolved in response to visitation to the LEGO factory, and Volkswagen Autostadt in Germany created a high investment showcase for the brand.

Today, the number of IP and product brand experiences that attract over a million visitors is growing. The Warner Bros. Studio Tour London - The Making of Harry Potter, Guinness Storehouse in Dublin and the Heineken Experience in Amsterdam all have annual attendance volumes in excess of a million. The Warner Bros. Studio Tour London - The Making of Harry Potter recently expanded its offering with the addition of the Forbidden Forest and adult admission is GBP 39 (USD 50). The Guinness Storehouse has won industry awards, including Best Visitor Attraction in Europe in the World Travel Awards, and along with Heineken has demonstrated the opportunity for beverage brand experiences. The ability of both Guinness Storehouse and the Heineken Experience to grow their attendance in excess of the rate of tourist growth to their cities also shows the strength of the opportunity when a brand's global marketing team

incorporates the authenticity of their brand homes into their broader marketing campaign's activities.

Other IP and brand owners creating their own visitor attractions include ITV plc in the UK and LEGO in Denmark. ITV plc have leveraged the popularity of their long running soap operas and the temporary Coronation Street Experience, which allowed visitors to walk on the original cobbled stones of the Street, was followed by the launch last year of The Emmerdale Studio Experience. This fall LEGO will open the new LEGO House next to the LEGO Headquarters in Billund as a corporate museum and brand showcase. The LEGO House is a high profile architectural project designed by Bjarke Ingels Group (BIG).

Along with success with independent attractions, IPs and brands have a greater range of licensing opportunities now that operators and owners are looking to create branded experiences in smaller scale formats. Merlin Entertainments, which has a large global portfolio of "Midway" attractions, has created a walk-through experience with the Shrek IP from DreamWorks and Mattel Play! experiences themed with Thomas & Friends, Bob the Builder, and other HiT Entertainment characters that have opened in both the UK and Dubai.

Parques Reunidos has also announced new mall entertainment center concepts that incorporate Nickelodeon and Lionsgate IP. The Nickelodeon concept, Nickelodeon Play Adventure, is a 3,500 to 5,000 square meter indoor concept that has projects in development in Portugal, Spain, and the UK, all expected to open in 2018.

Going forward, the region is expected to continue to see large-scale, new development in up-and-coming markets like the UAE while the mature markets will refine and diversify existing destinations and experiment and innovate in new smaller formats in retail and urban centers. •



Matthew Earnest is Co-Founder of Entertainment + Culture Advisors (ECA), a consulting firm focused on strategy, market, and feasibility analysis for entertainment and cultural attraction development. Clients include attraction operators, IP licensors, real estate developers, investors, non-profit organizations, and public agencies. Project work has included assignments across North and South America, Europe, Middle East, and Asia.

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Lesley Morisetti launched Morisetti Associates in 2010 to provide economic and strategic business planning consultancy services to the attractions and entertainment industry, based on over 30 years of operational and consultancy experience. Morisetti Associates is affiliated to ECA and works with ECA on projects across Europe. Client work includes studies for Merlin Entertainments, Universal Studios, ITV plc, the National Trust, Silverstone Race Circuits, the Natural History Museums of London and Copenhagen and the Association of Leading Visitor Attractions.

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Eyes in the skies

The making of “Flying Dreams” was a breakthrough use of drones for specialty cinema

by Judith Rubin

“Flying Dreams” is a new flying theater attraction in the Ferrari Experience building at the new Ferrari Land, a third gate that opened in April 2017 at the PortAventura theme park destination resort near Barcelona. “Flying Dreams” serenely soars over world landmarks and swoops down to spotlight 11 different models of Ferrari GT™.

“Flying Dreams” represents a breakthrough in the use of drones for specialty cinema. From the first test of equipment in the field, to the international shoot in six countries, to the last pixel in post production, the media production team led by Mousetrappe faced and overcame a series of unique challenges.

The “Flying Dreams” media production team is a who’s who of specialty cinema and special venue attractions, helmed by Mousetrappe, with Daren Ulmer (director) and David Briggs (writer), Don MacBain (producer), Sean Phillips (director of photography), Ken Saba (editor), Rick Rothschild (consultant); Jon Baker and Bruce Broughton (music and sound) and Muse VFX (visual effects).

The brief

After a media-rich preshow (also produced by Mousetrappe) guests settle into the 70-seat theater. The gondolas of seats are accessed on three levels, floated forward into the hemispherical dome and surrounded by projected imagery, in a four-and-a-half minute flying experience. “Basically, you pick up your Ferrari at the factory, visit all the locations, then arrive with your Ferrari at Ferrari Land in PortAventura,” said Daren Ulmer.

According to Ulmer, Mousetrappe developed the storylines, storyboards and concept art for “Flying Dreams” after being enlisted by PGAV Destinations, which was consulting on the project for Port Aventura.

“The known parameters for flying theaters are that you have 9-12 shots or scenes, each 15-35 seconds long,” said Ulmer. “For each scene, we had three goals to meet in terms of design and selection. First, the Ferrari car had to be the hero of the shot. We had to get close to the car, and our relationship to the car as we flew past was very important. Second, every location needed to be iconic and instantly recognizable, keeping in mind the Port Aventura

visitor demographics, which are Europe-centric, with many guests from the UK and Russia. Third, everything had to support the ride experience – to be memorable from a ride standpoint as well as cinematic. That last point was something Rick Rothschild emphasized.”

“It’s a combination of motion, visual and aural,” said Rothschild. “You need extraordinary environments, surprise elements, reveals, the awe and beauty of the location, and the fun of flying. The score and sound effects are immensely important as well.”

By the end of 2015 the team had the “what” and “why” - but would still need to nail down details of “how” and “where.”

Getting to drones

Traditionally, this type of aerial footage has been captured using a large format camera mounted on a helicopter. However, between budget considerations and the need to fly low and close to the car, helicopters were ruled out for “Flying Dreams.” Based on previous experience with drones, Ulmer was confident they could successfully mount a high-resolution camera onto a drone and fly it helicopter-style. Mousetrappe’s winning bid to produce the media for “Flying Dreams” committed Mousetrappe to this approach.

Don MacBain was engaged to take charge of testing the process and securing the locations, and would be part of the crew that went overseas to shoot the film, along with

Ulmer and Phillips. “I agreed with Daren that we could make it work,” said MacBain.

For the initial test, “We hung a 6K RED Dragon camera (the final deliverable being in 4K) with a fisheye lens on the drone and did basic testing maneuvers - flying straight up, doing a 360 and then back down, at an easy feeling clip,” said MacBain. “We did another following a car down a road in Topanga Canyon. We took the footage and added micro-stabilization post software to some of it, then went to Vancouver to view it in the FlyOver Canada theater.”

Teaching the drone some new moves

The next step was to find a drone operator receptive to the language of cinematography. “We needed to fly, bank and maneuver like a fixed-wing aircraft,” said MacBain. “Drones are not manufactured and set up to fly like that; the eye of the camera never tilts the horizon. Most drone operators are comfortable with up-down tilt, left-right panning and forward-back operations.”

When a helicopter is used for aerial photography, the camera is moved primarily by how the helicopter is moved,” said Rothschild. “Imagine the vehicle is the body of a bird that flies, soars and dives. The camera is the point-of-view and directs you where to look. The audience is the bird’s head, and the body of the bird doesn’t always go the way its head is turning. With a film like this, captured in a hemispherical way for dome projection, you want the guest to look around - that’s the fun of it. To get the drone to support that kind of choreography is challenging.”

A drone captures a Ferrari car on the racetrack (left). Don MacBain and Daren Ulmer observe a drone in flight during a shot in the Alps (right). Photos courtesy of Don MacBain



“Flying Dreams” media production team & select projects

Mousetrappe

- Space Shuttle Atlantis, Kennedy Space Center Visitor Center
- “Beyond All Boundaries,” National World War II Museum, New Orleans
- Recognized projection mapping spectaculars around the world for a major entertainment operator

Don MacBain

- “Viaggio In Italia,” Ferrari World Abu Dhabi
- Permian Basin Petroleum Museum (media content)
- “Driving with the Champion,” Ferrari World Abu Dhabi

Sean Phillips

- “King Kong 360 3-D,” Universal Studios Hollywood
- “Flying over Heilongjiang,” for Wanda Group
- “Flying Over Israel,” for Hollow Studios

Ken Saba

- “Soarin’ Around the World” (Disney)
- “Soaring Over the Horizon” (Disney)
- “Star Tours – The Adventures Continue” (Disney)

Rick Rothschild

- “Soarin’ Over California” (Disney)
- “FlyOver Canada,” Canada Place, Vancouver
- “FlyOver America,” Mall of America, Minneapolis

Enter Aerobo, a drone company based in New York City, owned by Brian Stroom, a movie buff. “Aerobo had discovered amazing ways to move the camera,” said MacBain. “They understood the banking maneuver to tilt the horizon, and how an aircraft moves. The drones we used were heavy lifters, capable of carrying 25-30 lbs. It takes a pilot and assistant, each with a joystick type controller – one for where the camera is looking, and one for where the drone is flying.” The successful test shot in Monument Valley, UT with Aerobo’s camera operator Jeff

Brink and pilot Mike Ferguson, was also the first location shoot for “Flying Dreams.”

Because of the wide-angle lens, portions of the drone rotors often ended up in the shot. This was minimized by mounting the camera to a 6” inverted riser, custom-built by Aerobo. “It made the rotors much less present in the top of the frame; the rest was cleaned up in post production,” said MacBain.

Location challenges

Mousetrappe’s team had established its methodology, but faced new challenges taking it overseas. “Countries and cities are all in different stages of the process when it comes to regulating drones,” said Ulmer. “In many cases, locations were in the phase of banning all flights for drones of the size and weight we were using.”

This added more complexity in terms of maintaining consistency from one shot to another. “This was not your usual process for an around-the-world shoot,” said MacBain. “It was learn-as-you-go. In each location, we had to find a drone company, operator pilot, and assistant, and the right drone, and have the camera set to capture the image properly in relation to the screen.”

“We had to re-pitch several locations to the client, and we realized we would have to use more CG (computer generated imagery) than originally planned,” said Ulmer. Scenes of the Statue of Liberty, the London Eye, and the Great Wall of China were all done in CG. “We couldn’t get permission to fly the drone close enough to the Statue of Liberty for the shot we needed,” said Ulmer. “In this format, the wide-angle lens makes things get very small onscreen very quickly. The statue would be very small, the New York skyline would be even smaller, and where’s the car?”

Although most shots were live action, the team made the most of the flexibility afforded through CG. “It allowed us to make the ride experience bigger,” said Ulmer. “We were able to push the camera a little more aggressively, and do things we couldn’t otherwise do, such as fly through the middle of the London Eye. It gave us more freedom in placing the Ferrari cars.”

Ferraris around the world

There were five on-location teams, in Italy, Spain, France, Russia and the US. “I was particularly passionate about this project,” said Ulmer. “I directed every shot and every part of this process, and was on location for everything. We broke it into two trips to Europe and my wife Jill Ulmer was with us as script supervisor. We did a shot every three days: two filming days and one travel day.”

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Sean Phillips, as DP, was responsible for the camera and especially the lens. While the drone camera operator handled pan and tilt, he calibrated the lens position, ensuring the projected imagery would end up onscreen in the right place. “We made up a lens board - a piece of metal that holds the lens in place and allowed us to mount it to the front of the digital camera - and it had to be redone every time we were in a new location with a new drone team,” he said. “Coordinating with the crews, we could view the shot on a monitor, which assisted with composition and technical management.”

Matt Duclos of Duclos Lenses furnished an essential element. “Duclos provided a specialized 8mm fisheye lens, re-barrelled from scratch, for stable, aerial photography on a drone,” said Phillips.

Many of the 11 Ferrari GT models represented in “Flying Dreams” were CG-rendered. “We would shoot a proxy car that was smaller than the Ferrari, and cover over it in post,” said Ulmer.

Phillips devised a camera solution to capture a “reflective sphere” for each virtual Ferrari. Four digital cameras, adapted to accept wide-view fisheye lenses, were mounted

to the car to capture the environment as it drove through. This information was later used to texture-map reflections onto the CG cars. All footage was shot at 60 fps. Visual effects and compositing were done in-house at Mousetrappe and by Muse VFX.

“Daren had very clear ideas about what he wanted,” said Phillips. He found Mousetrappe’s virtual reality (VR) system to be a useful tool for previewing and reviewing shots to ensure things were on track. “When you looked around you’d see what you’d see in the theater,” said Phillips. “It was really good for framing and motion.”

“At Mousetrappe we use VR as a pre-visualization and development tool, so we had developed a VR version of the flying theater itself,” said Ulmer. “As we filmed around the world, using our custom software, this enabled us to review the shots and how it was going to look in the dome between each shot attempt. We could share this remotely with everyone involved in the process.”

Editing and post

Back at Mousetrappe with the footage, the next part of the job was to put the show together in a way that felt right, with transitions from one location to the next



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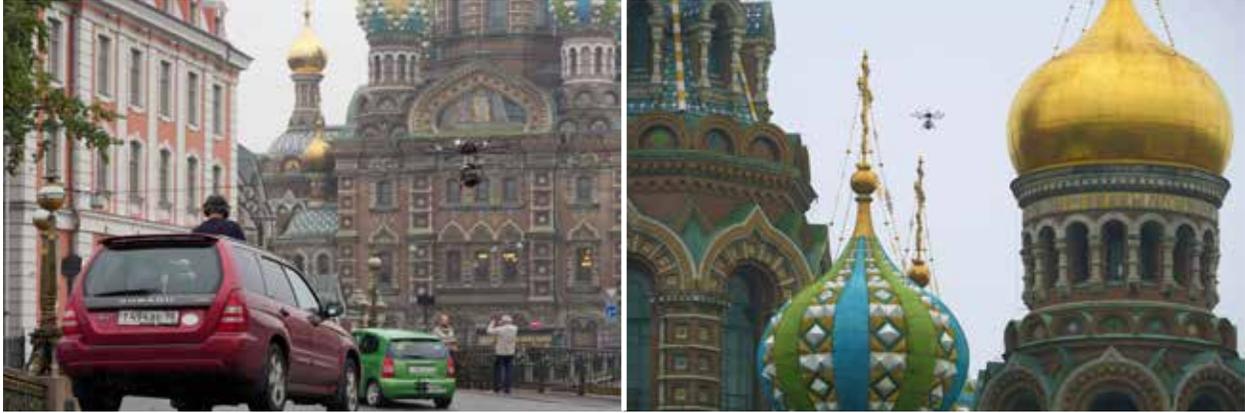
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A drone maneuvers up to and between the domes at Church of the Savior in St. Petersburg, Russia. Photos courtesy of Don MacBain

and knowing what the motion of the ride would be like. Under contract to Mousetrappe, Saba worked out of their Burbank offices for about seven months until the film wrapped.

“Flying Dreams’ brings something different to the flying show genre because in addition to all the great scenery, this one has a point – the Ferrari car that’s leading us through these different landscapes,” said Saba. “I loved the sense of intimacy. When we dip down and get close to the car, it feels like our feet are hovering just slightly above ground. We’re closer to the ground, closer to the car.”

Music and the future

Music scoring for “Flying Dreams” was done by Bruce Broughton and recorded in Nashville with a full orchestra, with audio sweetening and sound effects by Jon Baker Productions. “The car is the hero, and we had to hear the authentic engine sounds of that car,” said Ulmer. On site for three weeks at PortAventura, the final touches were programming the ride with system provider Brogent Technologies, adding 4D effects and doing final color correction in the dome.

The flying theater is an evolving genre. “In each one I work on, I keep thinking about things we didn’t try last time,” said Rothschild, “Where drones are going in all of this is an open question, but be prepared for the unexpected. As creative people, we keep an open mind.”

“What makes a flying film really work? Taking guests to places they’ve never been from a viewpoint they may never experience,” said Saba. “It’s a magical ride to magical places.”

“Flying Dreams’ was a rewarding collaboration, and will influence what comes next,” said MacBain. “To successfully and fully utilize drones for a world-class, flyover, ridefilm, dome attraction was a leap forward in the methods of cinematography and storytelling. This project is at the top of my list for just about everything.”

Ulmer said, “Flying Dreams’ was a truly rewarding project in every aspect – creatively, technically, aesthetically – and we’re very proud of the extraordinary experience we all got to create. The guest response has been wonderful, and it is the result of an effective team effort not only internally, but also with our clients and partners at PortAventura World and PGAV Destinations.” •





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IAAPA rolls out welcome mat in Berlin

Martin Palicki speaks with **Karen Staley**,
IAAPA Senior Vice President of EMEA Operations

InPark has covered IAAPA's events for over a decade. This year, its European Attractions Show (EAS) is in Berlin September 24-28. We spoke with Karen Staley in advance of the event for an update on IAAPA's European operations and a preview of EAS 2017.

Can you give us an update on the IAAPA EMEA division, including recent staffing changes in your office?

IAAPA EMEA and Euro Attractions Show (EAS) both have grown continuously over the years. As an association, we are dedicated to serving the more than 1,300 members in Europe and have expanded to offer services to the Middle East and Africa as well. We have expanded our member event offerings to include a Winter Forum and a Spring Forum as well. At EAS, with more than 500 exhibitors and 12,000 attendees at the trade show, we focus on the quality of our work and even further increase our services to members and exhibitors.

Keeping all these new activities in mind, it was necessary to hire additional staff to support the services and the expanding regional outreach. Jakob Wahl returns to IAAPA EMEA with the experience of having worked at the world-class facility Europa-Park. With him in the IAAPA EMEA office our goal is to continue to expand our services and develop additional benefits for the membership as well as the trade show. We are currently in the early planning stages for introducing more events on a local level.

Where does Europe fit into the global attractions landscape?

Europe is the origin of our wonderful industry and still benefits today from a perfect mix of tradition and innovation. There are still those historic and beautifully maintained parks but at the same time some of the most advanced rides and attractions are on this continent.

We also have a very impressive supplier industry here in Europe, which has a worldwide reputation of excellent quality. In many aspects, Europe might not follow a "record-breaking" philosophy as elsewhere in the world,



Karen Staley

but the attractions industry continues to fortify the industry through steady growth, development, quality and innovation.

What are the current tourism and travel trends impacting the industry in Europe?

What we see in Europe is the trend of staycations. People currently prefer to stay within the continent. More and more parks offer accommodation for short-term holidays and have become a true alternative to "classic" holidays. To my knowledge just about every amusement park/ attraction within Europe with an existing lodging offer is thinking about expanding it.

Much attention in the Middle East is focused on Dubai, but what about elsewhere in the region?

Dubai obviously follows a tourism-driven strategy to position itself as a leading tourism hub. It's great to see that world-class parks and attractions are key factors in this development. Even though other countries in this region might not follow the example with such strong emphasis as we see in Dubai, it still sets an example for neighboring countries and the whole continent. We expect many more projects to follow in this larger market.

What's the big picture for Eastern Europe? In recent years, new coasters have been announced in Poland, and new projects in Russia.

There is a huge market for attractions in these countries and we hear that these latest investments are starting to pay off. IAAPA EMEA held its Spring Forum in Poland this year, where more than 100 participants used the opportunity to see some very exciting developments.

**Tell us about EAS 2017 in Berlin.
What can we expect this year?**

Everyone who was at last year's Euro Attractions Show in Barcelona talked about the energy and the size of this fantastic show and we are very confident that this year's edition in Berlin will exceed this impression. The numbers indicate that we will see even more exhibitors and attendees than ever before and that it will be once again the most important networking place for this industry in this region of the world.

IAAPA staff and the European committees have been busy over the last months creating a great program. The conference offers several tracks on important subjects such as safety, trends, and revenue. We have also two new Lunch & Learn sessions on human resources and also on some of the most-discussed new attractions across Europe. We bring back the very popular FEC/Indoor Playground Day and the Water Park Forum with a visit to the very unique Tropical Islands, and are proud to welcome Christoph Kiessling, owner and CEO of Siam Park, for this year's edition of the Leadership Breakfast.

Two Edutours will bring guests to the amazing Berlin Zoo with its brand-new, multi-million EUR panda exhibit and to Karls Erlebnis Hof, a unique farm attraction outside of Berlin, reputed one of the best F&B and retail experiences.



A vibrant trade show floor and expanded educational sessions are key parts of the EAS 2017 event. Photos courtesy of IAAPA



Karen Staley & Jakob Wahl enjoy Cobra's Curse at Busch Gardens Tampa

Are you planning any post-event tours?

Yes, these events have been in very high demand in the past with long waiting lists. We expect this year will be the same, as we have planned a fantastic tour including visits to Europa-Park, Erlebnispark Tripsdrill, LEGOLAND Germany, and finish with an evening at Oktoberfest Munich. We encourage visitors to book early - these seats will sell out quickly.

In recent years, EAS has been known for some striking and unusual opening receptions. Can you tell us what to expect in Berlin?

The primary networking event of EAS, the opening reception, will take place this year at the beautiful Charlottenburg Palais, built in the beginning of the 18th century. It is an amazing location for an evening that will be filled with good food and opportunities to network with operators, suppliers, colleagues, and friends.

What is IAAPA EMEA focusing on for 2017-2018?

We would like to continue on the path of the last year and further increase what we offer for our members. IAAPA membership means more events, more research, and more education in the coming year. And we will obviously work hard on delivering a great Euro Attractions Show. For information on attending, visit www.IAAPA.org/EAS •





The integration of things

InPark's Joe Kleiman goes to InfoComm Orlando

We put on our themed entertainment goggles and plunged into the 2017 InfoComm show, held in June, to explore and highlight products and companies with a stake in the business of creating guest experiences for theme parks, museums and visitor attractions. InfoComm highlights the latest in commercial AV technology and products. Organizers reported 44,000 attendees this year, a record number and an increase of 14% over the prior year. 950 exhibitors occupied 545,000 square feet of trade show floor.

In the US, InfoComm alternates yearly between Las Vegas and Orlando. Internationally, additional shows take place in Europe, India, and Beijing and Chendu, China. Orlando being a world themed entertainment hub naturally influences the exhibitor mix and educational programming, and there was plenty for us to take in.

Christie's Universal partnership and more

In the attractions sector, Christie Digital continues to improve and expand its hardware and software products – remaining a leader in projection technology and manufacture with such products as its workhorse laser projector, the Christie Boxer – and augmenting that with a whole-product orientation and forging creative partnerships.

One very high-profile partner is Universal Studios: in summer 2016, Christie was named official projection system partner of Universal's North American theme parks. Another is director Ang Lee, with whom Christie collaborated to support creating Billy Lynn's Halftime Walk for stereo 3D, 120 frames per second exhibition.

Recent Christie activity in the planetarium and giant screen cinema business includes providing projection equipment for Evans & Sutherland's Digistar 6 TRUE8K demos. The company also collaborated with D3D Cinema to replace a 15/70 giant screen film projection system at MSI Chicago.

At its InfoComm 2017 booth, Christie showcased Terra, its Software Defined Video over Ethernet (SDVoE) technology for video distribution, the latest generation of Christie Mystique projection mapping software, and the Spyder X80, a multi-screen processor capable of projecting 80 million pixels at 4K 60Hz.

Last year we reviewed Mystique, Christie's projection mapping software, and Pandora's Box, the company's real time rendering and show control system, as seen at InfoComm and the IAAPA Attractions Expo. This year the company is offering four different Mystique packages. The Mystique Essentials is ideal for image blending on flat surfaces, such as walls or screens. Pro Venue is for

sports arenas and stadiums, where the playing surface becomes a projection screen. Premium serves the curved screen and dome theater community, while the Large Scale Experience Edition is designed specifically for dark rides and other attractions utilizing blended images or projection onto irregular surfaces. Mystique works with another Christie software product, Christie Twist, to fix warping and blending issues.

Alcorn McBride introduces RidePlayer show control

Alcorn McBride, headquartered in Orlando, is a leading provider of show control, audio and video equipment to the themed entertainment industry, with a client list including SeaWorld Parks & Entertainment, Kennedy Space Center Visitor Complex, and Wanda Group. At the company's InfoComm booth, Senior Design Engineer Hunter Olson showed us a working model of the RidePlayer show control system. (We had seen Alcorn's prototype of RidePlayer last November at IAAPA Orlando.)

Rideplayer is designed specifically for use in theme park vehicles which are prone to rugged use, such as dark ride vehicles, coasters, or parade floats. The product takes into consideration the robust requirements of an industry that demands consistent, year-round operation. Rideplayer uses a number of solutions to synch in-board audio precisely with audio, lighting, animatronics, and projection effects outside the vehicle, including GPS, SMPTE code, and Video Genlock (a device for maintaining synchronization between two different kinds of signals). With Alcorn's V16 show control software built in, RidePlayer can interact directly with a number of other components such as animation controllers and RFID scanners.

Stephan Villet (Smart Monkeys), Eric Cantrell (Barco) and Mitch Schuh (Smart Monkeys). All photos by Joe Kleiman



Geeking out after the show

As is our custom, InPark attended the Geekout, a private event on show control systems. The Geekout is held annually to coincide with InfoComm, by John Huntington, Professor of Entertainment Technology at New York City College of Technology and author of Show Networks and Control Systems (which Huntington is currently updating) and Jim Janninck of Timberspring Design + Engineering. This year, Mitch Schuh of Smart Monkeys, a Miami firm that designs and programs show control systems for attractions and retail venues worldwide, started off discussing the company's work for Warner Bros. World Abu Dhabi. The new park consists of 13 primary edge locations plus a core that are tasked with distributing data in a redundant yet segregated fashion. 120 switches feed into up to eight local VLANs. The entire project is run through Juno's Space, an on-premises web application developed by Jupiter Software.

Drew Dalzell and Ian Burch of Diablosound spoke about their annual job of providing audio, lighting, and show control systems for Universal Studios Hollywood's Halloween Horror Nights. The company has three weeks to install the system, which includes three main tech rooms, a video tech room, and an individual tech room unique to each maze, along with 30,000 feet of cable. One of the most difficult parts of the assignment according to Dalzell is the Terror Tram attraction, where guests walk through the wreckage of a 747 about three football fields long.

Robert Schoneman of Blumenthal Performing Arts in Charlotte, North Carolina, shared his experience in automating audio effects for Basic Training, a one-man live performance employing 50 characters. He addressed the challenges of a non-profit, such as how automation affects employment and that it becomes increasingly more difficult to recover the production if something goes wrong.

Marc Rosenthal of Personal Creations spoke about his work on Strike Force, a stunt show that takes place on and in the water around a former Russian aircraft carrier in Tianjin, China. Controlled via Barco's Medialon software, the show uses a series of props and explosives set near the ship, as well as controlled blasts from the ship's weapons themselves.

What's next is now – Bigger, Better, Simpler

Digital technology has had an enormous impact on attractions and entertainment venues. Touring around Orlando we saw billboards for a major theme park announcing "What's next is now." The same could be said for the InfoComm show. New technologies build upon

older ones and often result in new types of products. From racks to projection mapping software, we noted a common theme – easier to access, easier to program. The transition of system controls to mobile devices has simplified the interface.

Many companies are moving in a whole-product direction, to be one-stop shops, by taking their catalogs in new product directions, partnering with others, or even outright buying them, such as with Samsung's recent acquisition of Harman, which will result in joint packaging of video and audio products. The one-stop shopping option is seen by many providers as the best way to serve emerging markets such as China, where newer developers and operators are making significant investments in visitor attractions.

AV suppliers are looking at the attractions industry and taking notice. Major manufacturers continue to introduce products specific for the market and to partner with big players and creatives. Others are finding that existing products that are used in one market can successfully

migrate into another. The general trend is that as more hardware and software providers position themselves to serve – or better serve – the attractions market, they begin to work early on with creative talent to develop and adjust their technology to meet the industry's needs. This will lead to more vibrant images and audio, more robust show control packages, and ultimately a better and more impressive guest experience.

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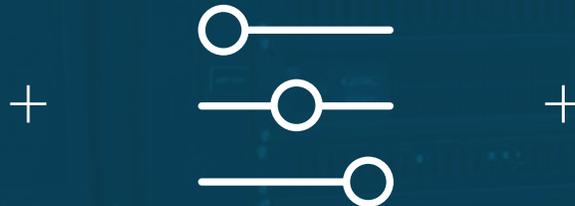
We would like to thank Julie Stern-monteiro and Jim Reilly of Panasonic, John Swinimer and John Berkovich of Christie, Peter Schuyler of InGear, Brian Galante of Dimension PR, David Steinberg of Goliath, Mike Gazzano of Delta Products/Vivitek, Vared Hazanchuk and Melissa Dolan of Epson, and John Huntington and Jim Janninck for arranging booth visits and the invitation to the Geekout. •

For more of InPark's coverage at InfoComm, visit the digital version of this issue at inparkmagazine.com.

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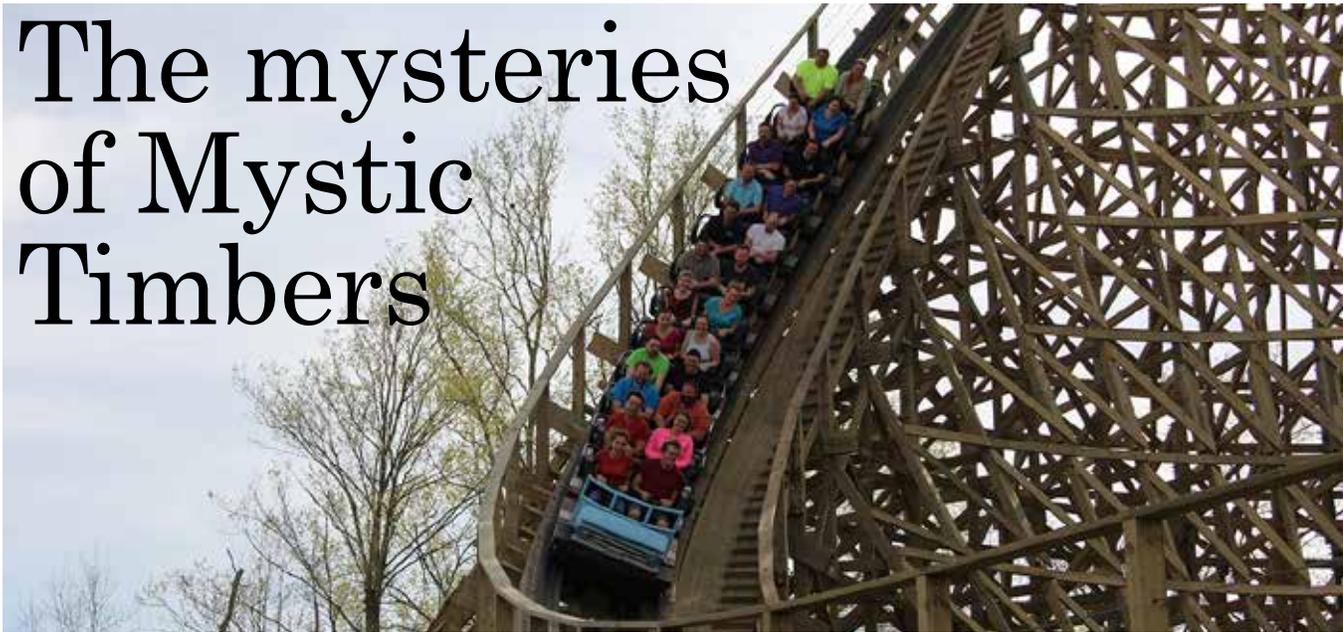
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The mysteries of Mystic Timbers



Kings Island leads the way for story-themed coasters in regional parks

by Kevin Dazey

Designing a new roller coaster today is an exercise in storytelling as well as engineering. Themed stations and ride vehicles, queue elements, and adjoining retail all combine to get the point across. Not only are the coasters and their environments skillfully themed, they include carefully crafted backstories to further push the excitement. Such is the case for Mystic Timbers, a new wooden roller coaster at Kings Island, a Cedar Fair park.

“With Mystic Timbers, we wanted to give our guests more than just a roller coaster - to make it more of an immersive, story-driven attraction,” said Don Helbig, Area Manager-Digital Marketing at Kings Island. “It gives our guests more to talk about, and it’s quickly become one of the most popular rides in the park.”

Whether of the wood or steel variety, highly detailed, story-driven roller coasters at the regional park level are relatively rare - although we think this may not be the case for very much longer.

Kings Island commissioned Holovis early on to show produce the entire attraction experience. They would work closely with corporate and Kings Island teams to develop the backstory and theming. Holovis enlisted Daniels Wood Land to provide props and scenery throughout. The roller coaster firm of Great Coasters International, Inc. (GCII) was selected as the ride manufacturer.

#Whatsintheshed

Well before Kings Island issued the full, official Mystic Timbers press release in 2016, clues were being released in

a teaser campaign to indicate a new major ride was on the way. The press release was followed by a big reveal to an enthusiastic crowd, as part of a live nighttime event inside the park. Nearly all details of Mystic Timbers were made known that night - except one. The ride’s ending remained a mystery, keeping the public in suspense until opening day (April 15, 2017). Meanwhile, #WhatsInTheShed, another teaser campaign, kept attention on Kings Island during the off season.

GCII and wooden coasters

Mystic Timbers is the fourth roller coaster designed and installed by GCII for the Cedar Fair chain. “The popularity of wooden roller coasters by GCII at other Cedar Fair parks played a role in selecting who would build Mystic Timbers,” said Helbig. The list includes Prowler (Worlds of Fun), Renegade (Valleyfair) and Gold Striker (California’s Great America). “Like those coasters, Mystic Timbers appeals to both thrill seekers and families,” said Helbig.

GCII is best known for “twister” style wooden roller coasters: those with numerous track crossovers and very few straight sections of track. But while Mystic Timbers does contain a few twister elements, this creation would definitely be classified as an out-and-back style ride. All of GCII’s coasters are supplied with the company’s own Millennium Flyer trains; three are utilized here.

The wooden roller coaster is certainly alive and well, as proven by the multiple projects opening in 2017 from GCII alone. Older wooden coasters have something of

a reputation for roughness, but modern construction techniques, materials and components have smoothed things out. “At Great Coasters, we continue to strive to make the smoothest, most exciting, and maintenance friendly wooden coasters in the world,” said Adam House, Senior Design Engineer at GCII. “One of the biggest enhancements is the use of Ipe wood [a very hard, dense Brazilian hardwood] on the track.”

Guest experience

Mystic Timbers starts in the Rivertown section of the park, in the fictional setting of the Miami River Lumber Co. The layout stretches into a wooded area away from park midways, and at times crisscrosses the park’s river rapids ride. At the turnaround point, track enters a tunnel, and from there begins the return trip, racing toward the aforementioned shed. The GCII Millennium Flyer trains were made to resemble the old blue truck of the storyline that is found in the queue area. “At this point, there aren’t any real limitations for theming the Millennium Flyers,” said House. “Obviously we need to be cognizant of the clearance envelope and passenger reach, but regarding the theme itself, the sky really is the limit!”

The story begins in the queue, building anticipation for the shed finale. A crashed pickup truck at the gate, and vine-covered signage are the first noticeable suggestions the lumber company has mysterious forces at work. “Every detail alludes to why it’s been abandoned for so long, with elements that seem ‘stuck in time’ from that fateful day in 1983 when the mill closed,” says Amy Steele, VP of Development at Holovis. “For example, from within the truck, you can hear radio shows playing. If you listen carefully, you’ll hear a talk show speculating on the mill closing, interrupted by music and Kings Island advertisements from 1983.”

More queue backstory: an empty guard shack houses monitors that display video of security personnel in the area attempting to locate trespassers. Audio warns visitors to stay away; as guests move closer to riding, the warnings become more frantic. And then, the ride itself begins to deliver on the promise. “Even the lift hill has a motion profile programmed to add to the show, then you get sent twisting, turning, and racing through a mysterious timber forest until you inevitably come to the shed and discover for yourself the secrets hidden inside,” says Steele. “The guest gets a total experience from start to finish.”



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Backstory and theming

At the end of the ride, passengers finally encounter the mystery in the shed. Trains hop up to a flat track section where magnetic braking brings the action to a halt. A brief pause occurs before proceeding towards the shed. All the while audible warnings persist about proceeding. The train full of passengers slowly moves into what resembles an old lumber mill, overrun with vines. More of Daniels Wood Land's handiwork is showcased in the shed. The company is known for using reclaimed materials to give character, and there's no shortage here as pointed out by Andy Dauterman, Custom & Theming Projects Manager. "Using reclaimed materials is a crucial part of our theming business. They add to the realism; they have history and age. For the interior of Mystic Timbers, we used machinery and conveyers from a dismantled walnut processing facility. This same type of equipment was common in lumber mills, so we repurposed them to fit within the shed scenes. Wrapped with vines, they really add to the authenticity of the interior." Where needed, fresh materials were modified to look old. "We age and distress the wood using a variety of paints, stains and washes, including rusting all the hardware. Then we layer in all the props and details," said Dauterman.

Dauterman talked about some of the intricate details, including many animated props, that his company provided and that complement the projections to create the coaster environment. "Lockers swing out towards the riders and the doors open, a sign drops, saw blades clang, chains rattle, overhead lights sway, and an air duct drops from the ceiling. All of these are pneumatically driven and triggered as part of the show sequence. Other gags include spooky red eyes, a playing tape recorder, and the lights on the vending machine going haywire."

Encouraging repeat ridership

In addition to practical effects, Holovis created multiple-screen, projected endings that further beg for multiple re-rides. "Just when you think you've discovered the secret to Mystic Timbers, the experience and the story change," said Steele. "You have to ride the attraction quite a few times and during different times of the day to find out all the secrets that lie in the shed. The elaborateness was also important because the story isn't just in the final moments of the ride. Everyone, including GCII had to buy into the story, and an elaborate, fully-realized backstory is key to keeping everyone on point."

Other than the kids' area, Kings Island does not rely on licensed IP to theme its rides. The original story aspect is key to Kings Island and to Mystic Timbers. But story

or no story, everyone on the team kept in mind that this was a roller coaster. "The attraction can simply be enjoyed as just a really great coaster," said Steele. "But if you are a Kings Island fan, there are so many layers to discover. The longer people spend in the queue and the more times they ride, the more they will savor the mysteries of Mystic Timbers."

Holovis and Cedar Fair

"Holovis has been working with Cedar Fair since 2015, with their Techtainment group responsible for adopting new and emerging technologies into attractions within Cedar Fair," said Steele. The first collaboration was an augmented reality (AR) gaming experience, "The Battle for Cedar Point," launched in 2016. It allows guests to use a mobile app to compete against others while exploring the park. "The AR overlay converts queue lines into battlefields, where guests engage in interactive games and networked battles against every other player in the park," said Steele. The technology earned Holovis a Brass Ring Award from IAAPA in the category of technology applied to amusements and saw the concept expand to Kings Dominion in 2017.

Steele noted that Holovis is working on additional ways to apply new technologies and overlays to reinvigorate parks. "One of our key focus areas is using technology to personalize the theme park space. A lot of what our R&D teams are working on is about collecting data from the guest and using it to change the attraction in a deeply personal way. We anticipate a lot of interesting refurbishment and retrofit opportunities that will leverage technology and software to add story and personalization."

Mystic Timbers may very well be a good indication of things to come according to GCII and Holovis. "Working with Cedar Fair and Holovis through this project made it all the more exciting," said House. "The team did a fantastic job merging the ride with the show elements for the shed and we at GCII are excited and hopeful to work with a show producer again in the near future."

Steele adds, "This combination created something special and shows how storytelling could be as integral a part of the experience as the coaster itself, setting a trend for 'storytelling coasters' that you'll see in 2017 and 2018." •

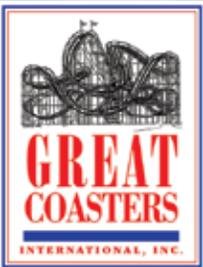


Kevin Dazey has a mechanical engineering background and works in R&D at a manufacturing company in St. Louis. He writes about ride engineering, roller coasters and related topics for InPark. dazey200x@yahoo.com

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Orlando meets Moscow

George Walker, SVP Creative Services, reports on Dynamic Attractions' latest

Dynamic Attractions is expanding again, as our artists and designers busily draw, sculpt, and calculate amidst the hammering and sawing from the build-out of the facilities for our new department, the Dynamic Attractions Creative Studio, at our Orlando location. The Creative Studio is set up to independently offer specific services that our company has been providing for some time: story development, media production, design services, previsualization - and now, significantly more scenic fabrication space for physical mock-ups.

Clients, design firms, and project teams can engage the Creative Studio specifically for design services alone. They can draw the “ride box” on their master plan, and then bring us on to help them fill it – even if it isn’t our ride system. Through Dynamic Attractions, they can also, of course, choose one of our own world-class ride systems or comprehensive Unlimited Attraction™ Packages, such as our award-winning Dynamic Motion Theater™ that include everything from design to integration, and from special effects to show sets.

Expanded media production

The Creative Studio expands our media production capabilities. We can work hand-in-hand with a media partner, but we can also offer clients the option of having all their media for an attraction produced in-house.

Media production is as much a design tool as it is a final product in an attraction, and the gap between pre-visualization and installation-ready content is narrowing, as my colleague, Steve Warner, Director of Creative Services likes to point out. Drawing on his background in design, gaming, and visual effects, Steve has put together a top-notch team able to produce state-of-the-art animatics and attraction media.

With our Flying Theaters, for example, we are helping clients with fully rendered animatics to better understand what the film experience will be like. This in turn helps the show programmers fine-tune the ride equipment’s motion profile long before installation has even started. This can lead to cost and time savings, while improving the final product. We have also developed a proprietary VR system that allows you to view the media virtually, from every seat, and with all the curvature and lenses modeled to replicate real-life conditions.

Creative + Tech

Having a creative design team right next to our engineers, in addition to expanded mock-up facilities, gives Dynamic Attractions enhanced ability to bridge the creative with the technical, to support sophisticated, highly integrated products. Addressing ride and show simultaneously optimizes design; challenges are addressed in a technically

The designers stand with the new Dynamic Attractions Creative Studio sign in the latest wing of the Attraction Development Center in Orlando. Photos courtesy of Dynamic Attractions





With the spires of St. Basil's cathedral in Red Square in the near distance, the Dynamic Flying Theater gives guests a soaring tour of Russia and Moscow.

creative way. “It’s this combination of technology and creativity that makes my job such a joy,” says my colleague Mike Haimson, VP of Technical Development (aka “wizard behind the curtain”). “We are also working directly with some of the industry’s great design houses to help bring their creative intent into a superior level of detail and technical reality.”

I am particularly proud that Dynamic has been able to combine the talents of the Creative Studio department with the company’s team of technical minds. It’s a magical and absolutely mandatory partnership in order to imagine and create truly fresh, engaging, and buildable show elements to incorporate into our attraction packages.

Join our team

I often call myself a “storybuilder” because I know that eventually ideas have to become reality. Dynamic is looking for more people with this mindset. If you are the type who is comfortable on both the architectural and the artistic side - who loves to get their hands dirty, build models and draw as much as to work in CAD and break elements into spreadsheets - then please reach out to us through dynamicattractions.com.

Moscow Flying Theater

“Zaryadye Flight,” is a Flying Theater opening in Moscow as a featured attraction of the new Zarayadye Park project, just steps from Red Square. This flying theater is an

international collaboration utilizing our combined services to develop the preshow, story, and ride system.

It was a windy, Russian winter afternoon as we took in the epic beauty of Moscow on our initial site visit several months ago. With the towers of the Kremlin just ahead, we were thrilled to be bringing a theme park attraction to this remarkable city and international tourist destination. The silhouette of cranes and construction equipment on the project site contrasted sharply with the majestic architecture of this historic city, the colorful spires of the famous St. Basil’s Cathedral in Red Square stretching above the newly planted trees of the park.

What is taking shape is no ordinary city park. Described as “Wild Urbanism,” Zarayadye Park is going to be a cutting-edge landscape and cultural experience and developers forecast visitation of about 10 million a year. The park is organized into four distinctly Russian temperate zones - tundra, steppe, forest, and marsh – and the structures blend harmoniously with the plant life.

Nestled under a berm of grass like a modern Hobbit house, you will find a very reverent-yet-exhilarating, Dynamic Flying Theater called “Zaryadye Flight” that will take guests soaring over some of the most spectacular and iconic locations in Russia, including Moscow, St. Petersburg, Sochi, Siberia and Far East regions.

“Zaryadye Park is going to be a world-class destination and a symbol for all of Russia,” says Pavel Trekhleb, Project Executive. “For this wonderful urban-park project, we wanted nothing but the best. Our Flying Theater attraction is the perfect addition to the grand vision of Zaryadye Park. The Dynamic Attractions team understood the cultural significance and helped us to realize that vision.”

Moscow’s Chief Architect, Sergei Kuznetsov, spoke of the Flying Theater attraction as one of the most important park features that will complement the opera theater and congregational spaces.

As my colleague Cindy Emerick, VP Business Development, says, “We are just proud to bring our piece to this incredible project. It has been amazing working with this wonderful client, and learning about the fascinating history and architecture of the area. It has been a gratifying, cross-cultural collaboration, and Zaryadye Park is going to be a fantastic place for everyone who visits Moscow.”

Coming Soon

With so much happening everywhere we turn, it’s easy to get caught up in the moment. But tomorrow always demands something new and better than ever. And Dynamic Attractions has a few surprises we’re getting ready to reveal in November, at the 2017 IAAPA Attractions Expo in Orlando. As my boss, CEO Guy Nelson says, “Many in our industry are working on ways to create compelling virtual reality (VR) experiences.

We’re cooking up our own secret formula for VR-based attractions as well. We took a pioneering step in 2016 with VR-Bot, our product that integrates VR with a robotic arm. But this year we will launch a different VR experience, and we believe it will redefine what a great VR ride is.”

But that’s just a small sneak peek at what Dynamic Attractions will be unveiling in Orlando later this year. I like to say that when the herd is veering left, we go to the right. It has been just over two years since we first asked ourselves at Dynamic Attractions what the new future of themed attractions would look like. What would be something truly unique in a world awash in a sea of pixels? All I can say is that this November, Dynamic Attractions will introduce something the theme park audience has long awaited, and of which it has long dreamed. We can hardly wait to share it with you and I wish I could say more. But for now, the text on the movie screen would have to read: “CONFIDENTIAL.”

Please be sure to stop by our booth 21-301 at EAS in Berlin! Please contact Cindy.Emerick@dynamicattractions.com for appointments. •



“Storybuilder” George Walker is SVP, Creative Services, Dynamic Attractions. He simultaneously serves as Creative Director for Ferrari World Abu Dhabi where his projects include Flying Aces (WWI themed coaster), Benno’s Great Race (interactive dark ride) and MISSION: Ferrari (coming soon).



Director of Creative Services, Steve Warner, demonstrates the latest AR in development at the Dynamic Attractions Creative Studio.



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IP: start with the basics

Developing intellectual property attractions

by Jeff Havlik (PGAV Destinations)

We are in an industry that is ever changing: evolving, setting, racing, or chasing the latest trends of technology and society. Some trends are short-lived while others, like intellectual property (IP)-based attractions, have staying power. These hallmarks of family photo albums everywhere are so quickly being integrated into the thought and design process of attraction development that you don't ask whether there is an IP component, but *what* is the IP?

This isn't a bad thing. IPs may bring great power to an attraction and park. There is great marketing potential in utilizing something the public already knows and loves. The characters, their personalities, their stories, the places, and the brand are well-known and alleviate the need of the park and designers to develop these from scratch.

Licensing an IP doesn't, however, mean that the design work is done, the attraction markets itself, and all a park needs to do is build a ride and use the IP to name it. The IP provides recognition by its fans, who will demand an attraction that lives up to, or exceeds, their expectations.

IP alone doesn't equal a great attraction; a successful result emerges when IP is part of a well-executed process. For designers, an IP-based attraction means there are now two clients to please – the owner of the park and the owner of the IP. In this article, we offer guidelines for success and look at several outstanding examples of IP-based attractions. One of the examples is a PGAV Destinations project; the others are not. The guidelines aren't project-specific; they are universal points to ponder when adding an IP-based attraction.

Fit the IP experience into the park's brand and its expansion goals

Start with the basics - if possible, before the IP is even selected. What are the goals of the project? Look at the park demographics and determine if the need is to strengthen the existing base, or reach out to an untapped segment. How does the attraction mix need to grow? Is there an attraction type that will elevate lower attendance times? What capitol and land are available? What is the park's brand?

There may not be finite answers to all of these, but a direction can be established. This empowers the team to choose an IP that supports the goals of the park and fits

within the park's brand - or transforms it in a desired way. The possibility of success greatly increases with good communication (not a big surprise). If the park owner has a clear vision of their goals and needs, chooses an IP that is in alignment with them, and communicates them clearly with the IP holder and designer, then everyone shares the same vision and can work to develop a project that meets everyone's needs.

It's important to do prep work along the lines indicated above. To use a cooking metaphor, suppose the IP-based attraction is a dish to be served to a particular group of diners. If the team in the kitchen selects the ingredients before knowing the final dish, that's comparable to selecting the IP and setting the terms of its use and even the program before a direction is known. It can result in serving a sandwich or a souffle when what was needed was a salad - in other words, a less-than-perfect fit, that could have been much better. This can frustrate all parties involved. The attraction may fit the IP but not the needs of the park – or vice versa.

Deeply understand the IP and its appeal

It isn't enough to know the IP is popular with park guests. You need to understand why. What does this IP have that resonates: is it the storyline, the characters, the technology of a game and how you play, the graphics, and/or the cinematography?

The best resource is the IP holder. Get to know them - not just their business manager - but the creators of the IP and the people who continue its evolution. Free flowing conversations outside of a list of questions, meeting agendas, and a design guide often provide the most insight into the IP. Ask about the history - where the IP started and how it evolved to become what it is today. If the creator of an IP was bullied as a kid and developed a heroic character that looks after the downtrodden, it can become an undercurrent that flows through every iteration of the IP's development.

When taking an IP from one medium and placing it in another that is very different from those origins, it's important to understand this history, the subtle message the creator weaves throughout the IP's development; so that even on its new platform, it maintains that message. The guests/fans will recognize the thread, and the IP owner will be comfortable.



Guests ride Grover's Alpine Express at Busch Gardens® Williamsburg, a family-friendly roller coaster at Sesame Street® Forest of Fun™.™/©2016 Sesame Workshop. All Rights Reserved. ©2016 SeaWorld Parks & Entertainment, Inc

Keep in mind that for many IP creators, their stories and characters are a huge part of who they are. The IP is their child, and they are letting you care for it. The park owner and designer must make the effort to learn about and understand that child's upbringing, family history, culture, and future. Doing so will make the IP holder more comfortable with the project, which goes a long way toward ultimate success.

The emphasis placed on knowing the IP's roots is essential to its thriving on new platforms (such as a theme park attraction) in the future. The attraction will be opening in the future and needs to relate to the IP on opening day. Knowing the IP and understanding what is important to its creator - and what attracts its fans - supports an authentic result that delivers on the most important aspect of the IP: its soul.

Create something the guest can't experience anywhere else

The IP may have previously only existed in movies, books, games, etc. Realizing it as a physical guest experience is the primary draw and goal. Guests can live the dream of walking through its neighborhoods, conversing with its characters, and going on thrilling adventures with its heroes and villains.

But what if the same IP has been developed for other attractions, in other parks, somewhere in our industry's global markets? What can be done to set this attraction apart from the others?

Referring back to two earlier points will help gain some insight: "Fit the IP experience into the park's brand and its expansion goals," and "Deeply understand the IP and its appeal."

On the first point, the park brand can be an overlay on the IP to distinguish it from other attractions. IP characters can be put in a setting that is unique to your park. As an example: Busch Gardens Williamsburg and Busch Gardens Tampa Bay (both PGAV clients) have incorporated the Sesame Street IP into their children's areas. In each park, the same Sesame characters appear, but are costumed to tie into each park's brand. In Williamsburg, their outfits reflect the various European countries used as themes within the park. In Tampa, their dress conforms with the park's safari theme.

On the second point, deep understanding of the IP: With the roots of the IP firmly in place, other scenarios beyond what has already been done can begin to grow. Imagine a hypothetical IP featuring that hero character

who protects the downtrodden. Imagine there are existing attractions at other parks using this IP, where the hero engages in individual battle with a single foe or small band of enemies. A possibility for your new attraction is to expand the message of the IP over a larger territory - to encompass neighborhoods, cities, cultures, or galaxies. Our hero could now be at the forefront of a larger conflict – perhaps leading the people of Earth to rise up against an oppressive force from another planet. The story (and the attraction capacity) can be grandly scaled up while maintaining the character and soul of the IP, and with something unique to the park.

Make the attraction great in its own right

IPs have demographic appeal that may not align with every visitor in the park. I know all attractions don't align with every guest demographic either, but we strive to include as broad an audience as possible. One way to do this with IP is to make sure the attraction is great even if the guest isn't familiar with the IP; the attraction truly needs to be engaging and entertaining without any prior knowledge on the guest's part. If someone unfamiliar with Harry Potter visited a Universal Studios park and walked through Hogsmeade and Diagon Alley, they could still appreciate the detailed, immersive environment created there: the attention to detail, the little interactive surprises, and the attractions themselves. They could be completely entertained walking around thinking, "Harry Who?"

Likewise, you need never see the movie "Avatar" to be blown away by the new Pandora land at Disney's Animal Kingdom. Yes, these are big budget examples - but no matter what the budget, or the IP, the goal should be to create enjoyable attractions regardless of guests' familiarity with the IP.

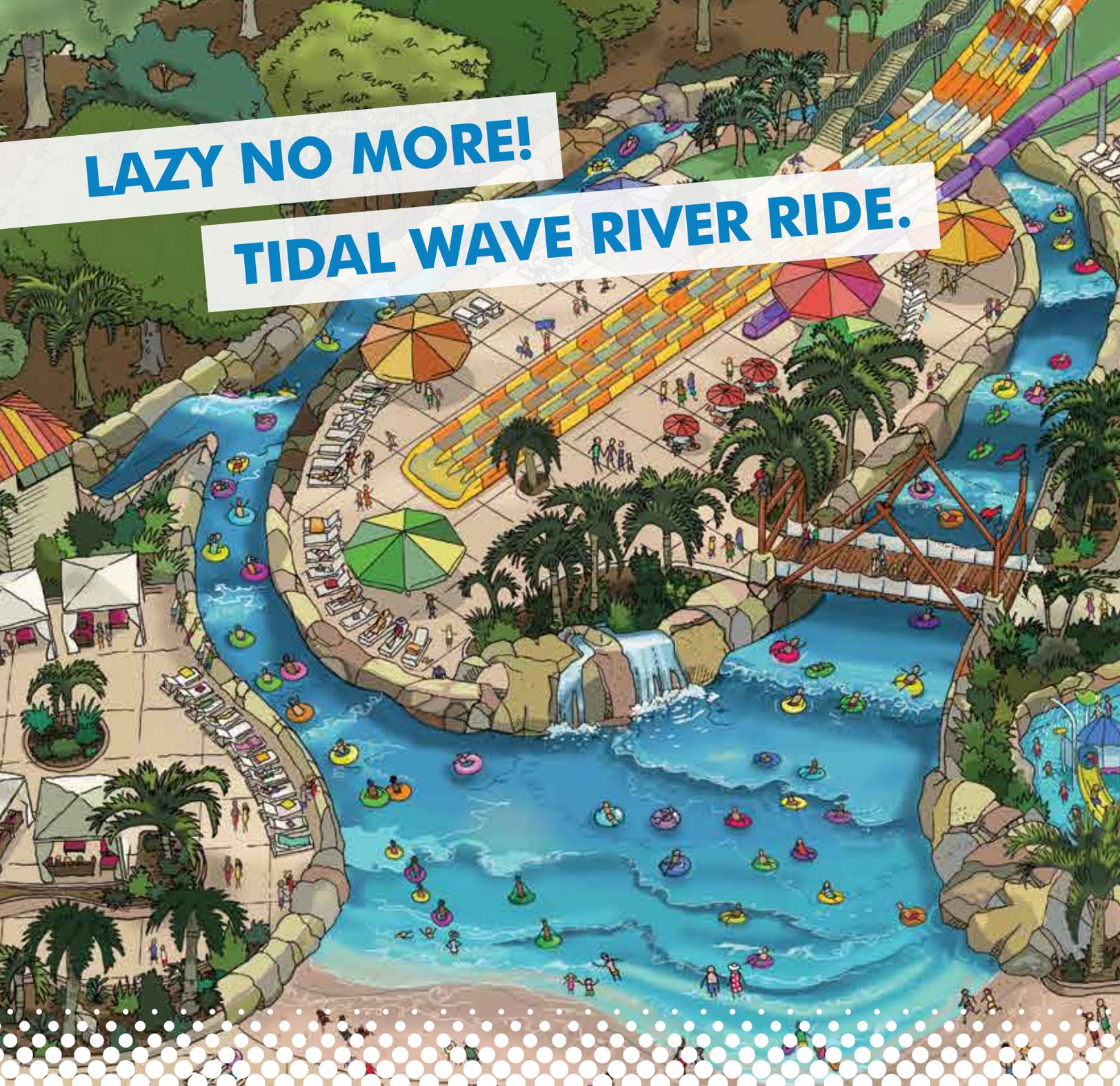
As fandom swells and strengthens around fantastic films, TV series, video games, and other media, so accelerates the pace at which developers work to bring these worlds to life within theme parks. Collaborating intimately with IP creators - and thoroughly studying the IP's fans - can lead to remarkably successful attractions that celebrate the heart of the story, blend seamlessly with the park setting, provide unique experiences, and are enjoyable by every guest who walks through the front gate. •



Jeff Havlik is Vice President at PGAV Destinations, the St. Louis-based attractions design and consulting firm. Having been with PGAV for more than three decades, Havlik has left his mark on countless iconic destinations around the world, including SeaWorld parks, Discovery Cove, Guinness record-setting Chimelong Ocean Kingdom; PortAventura and Isla Magica in Spain, Six Flags Great Adventure, and the Busch Gardens parks in Williamsburg and Tampa. www.pgavdestinations.com

An attraction should be great even for guests unfamiliar with the IP. You don't need to have seen the movie "Avatar" to appreciate and enjoy Pandora - The World of Avatar at Disney's Animal Kingdom. © Disney (David Roark, photographer)





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The outer limits of fun

ADG brings something new to waterparks with H2OBX in the Outer Banks

by Jessica Mahoney

When one thinks of the Outer Banks of North Carolina, long stretches of beach and coastal tranquility sprinkled with a rich aviation and boating history often come to mind. This unique summer destination resort area, nestled halfway up the Eastern seaboard, draws visitors from as far north as Canada and as far south as Florida. Rich with its own undeniable charm and Southern hospitality, this setting was carefully taken into consideration when a 40-acre waterpark development was proposed.

The new, \$46 million H2OBX Waterpark broke ground on October 25, 2016 and opened to an outpouring of public support on June 22, 2017. An expedited construction schedule was under the careful watch of Aquatic Development Group (ADG) - a premier waterpark design/build company based in the US - with Owners Ken Ellis & Arthur Berry III of Camelback Resort; Tim Gantz, previous owner of Noah's Ark; and Jeff Malarney, a local attorney.

Ellis, Berry, Gantz and Malarney each brought substantial experience in their respective fields; waterpark development, planning, operations and market tourism.

Ellis, who is president and CEO of ADG, is also co-owner with Berry of Camelback Resort (home to Aquatopia indoor waterpark and Camelbeach outdoor waterpark). Gantz is the former owner and operator of Noah's Ark, which is billed as America's Largest Outdoor Waterpark. Malarney, former Navy JAGC, has been intimately involved in the North Carolina vacation rental industry, recently serving two terms on the North Carolina Real Estate Commission. He is an Outer Banks resident and practicing attorney.

Visibility and tranquility

H2OBX sets a new benchmark in Carolina coastal tourism attractions. It will be experienced by hundreds of thousands of families who vacation in the Tide Water and Outer Banks regions. A parcel was identified that would allow a large percentage of vehicles entering the resort area to pass directly in front of the waterpark, thus forming instant awareness and a front row seat to its vibrant colors and attractions.

As the lead developer on the project, and working with the renowned Weber Group, ADG carefully designed

and themed H2OBX to embrace the culture of the Outer Banks. Seeking to incorporate those feelings of tranquility and relaxation tourists expect to find in the Outer Banks, they developed a relaxed and scenic setting that also includes adventure elements. Vacationers, families and waterpark enthusiasts will be immersed in the rich history of coastal Carolina as H2OBX pays tribute to legendary pirates, boat building and the Wright brothers, while enjoying modern amenities and exhilarating new attractions.

H2OBX features an innovative park layout that makes it feel more like a private beach club than the typical waterpark. “This reflects the guest experience that the owners wanted to deliver,” said Jim Dunn, Executive Vice President for ADG. “By marrying the right mix of thrill and family fun attractions that guests expect from a waterpark, with wide access paths and shaded deck space, we were able to provide seating areas with 50 ‘funbrellas’ and 50 additional cabanas for a more relaxed, resort feel.”

Thrills and market outreach

H2OBX delivers enhanced popular attractions as well as several first-to-market slides and experiences, all

providing varying degrees of thrills, lengths, drops, turns and intensity suitable for guests of all ages. Many of the attractions at H2OBX offer cutting-edge innovation. Dynamic slides were chosen from WhiteWater West and other cutting-edge attractions like Aquatic Development Group’s Twin Tides Wave Pool. This unique attraction delivers the ocean-simulated current, tide and waves that guests love, but unlike traditional wave pools, it features “dual beachfront” entrance points on opposite ends. Our innovative, new Adventure Lagoon is also a highlight, featuring climb, crawl and balance soft mat obstacles and swim zones. [see sidebar]

“We take great pride in having the opportunity to deliver the most progressive and exciting attractions to open on the Outer Banks in decades,” said Brian Czarnecki, Vice President of Sales and Marketing. “We are thrilled to be welcoming loyal Outer Banks guests from so many states and are honored to be a part of their summer plans and vacation memories.”

Attendance, ticketing and data management strategies were considered and designed with attention to detail and the latest technologies for marketing and customer service. H2OBX partnered with the leading Vacation Rental

Key Attractions at H2OBX Waterpark include:

- **Twin Tides Family Wave Beach** - Wave pool experience flanked by beachfront.
- **Deep Six Adventure Lagoon** - Ropes and balance pads spanning the water, huge climbing wall, inflatable obstacle course, and wet and wild basketball courts.
- **Teach’s Tides Adventure River** – An easy current featuring waterfalls, geysers and bubbling waters.
- **FlowRider®** - A 40-foot inclined, tensioned composite membrane surface to soften any wipeout.
- **Cat-5** – Showcasing a Cabana beach front area, this 25,000 square-foot, dual-beach wave pool features 4-foot high waves with multiple wave patterns for a unique experience every time.
- **Rogue Wave** - At six-stories tall and nearly 1,500 feet long, this family raft ride features a heart-racing precipice, and a surprising drop into weightlessness with a zero-gravity apex.
- **Queen Anne’s Revenge** - Family raft ride featuring exciting twists and turns through enclosed sections and a surprise burst of light in an otherwise dark tube slide.
- **Wild Horse Run** - At almost 1,500 feet long and from 50 feet high, riders can go alone or with a friend and experience tight corners and high-banking turns.
- **Storm Chaser** – An aqua-lucent lit, enclosed flume launching riders at almost 24 miles per hour into a cavernous basin for several rotations.
- **RipTide** - A 50-foot tall waterslide featuring dark twists with aqua-lucent lighting, steep drops, and a near-vertical 35-foot wall that boomerangs riders back and forth.
- **The Plank** - Exhilarating anticipation precludes the drop out floor before riders free fall 90 feet at 38 miles per hour.
- **Paradise Plunge** - Dropped from the launch capsule, from 90 feet, riders experience a near free fall before being launched into a 360-degree, horizontal translucent enclosed loop.
- **Dune Runner** - Three adrenaline-charged drops in an open slide from 70 feet high.
- **Midnight Marauder** – Three electrifying drops through an enclosed tube that runs more than 500 feet in length

Agencies, who manage a total of more than 8,000 homes, and welcome a carousel of over 125,000 new visitors every week. Individualized ticket links were established with a programmed share of the sale so that the agencies could market directly to their summer renters, and metrics could show the number of tickets sold by each partner. In addition, over 20 local hoteliers and camp grounds were offered a percentage of ticket sales by selling through their own individual ticket links.

All in all, it has been an extraordinary and unique project. H2OBX developer Ellis said, "As someone personally involved and with a vested interest in H2OBX water park, I'm extremely proud of the talented and diligent team at ADG and the work put forth by so many others. H2OBX is incredibly innovative because we had the full force of the industry's best people behind it." •



Jessica Mahoney is the Marketing Manager for Aquatic Development Group (ADG), a leading designer and developer of aquatic attractions and waterparks in North America. For more information about ADG, visit www.aquaticgroup.com



Adventure Lagoon provides three different challenging activities for guests to enjoy. Photos courtesy of ADG

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Flight of the simulators

Brogent flying theaters land in Europe, the US and China

by Stefan Rothaug (Brogent)

Visit Brogent Technologies at the IAAPA Euro Attractions Show in Berlin (booth 20-413) and the IAAPA Attractions Expo in Orlando (booth 5815). Contact: sales@brogent.com.

2017 marked another successful year for Brogent Technologies Inc., a Taiwan-based company that supplies media-based attractions. We're celebrating three new installations in Europe that represent some of the very first flying theaters on the Continent.

The two key features of a Brogent flying theater system are (1) suspended moving seats, and (2) a giant dome screen. The Brogent i-Ride design seats passengers on gondolas, with dangling feet, propelled forward into a huge, hemispherical dome screen, immersing them in the imagery and experience. Size and capacity can vary.

The i-Ride alights in Spain, Germany and Netherlands

Our first project to open this year (April 2017) is a flying theater at a theme park in Spain. We delivered a seven-gondola, 70-seat Brogent i-Ride with a 20-meter dome screen.

[Editor's note: see p. 16 of this issue, and "Project V" in IPM issue #65 for two related articles.]

Brogent's second project opening of the year, at Europa-Park in Germany, was even bigger - utilizing not one but two 70-seat, i-Ride flying theater systems for "Voletarium,"

which has been enthusiastically received since its June 3 opening. The creation of a media-based attraction is always a team effort, and Brogent was honored to work with Mack Solutions (creative design), Mack Media (ride film) and Kraftwerk Living Technologies (AV system and 21m dome screens) to make this project a success.

Mack came up with a unique story and well-produced media that, in addition to being a popular show in its own right, has established a solid framework for future films to come in what we believe is the largest flying theater in Europe. The show takes guests on a simulated flight over Europe with one of the fantastic flying machines developed by the Eulenstein brothers, the fictional founders of the Voletarium Flight Research Institute.

Our third installation, "This is Holland," opens in fall 2017 as a standalone attraction in the heart of Amsterdam, just across the river from the main train station. This project represents a new effort to connect tourists and locals with the beauty and culture of the Netherlands by taking them on a virtual flight over beautiful landscapes and famous landmarks.

City tourists will be able to buy tickets for certain time slots that bundle the ride with an extended pre-show experience. "This is Holland" ranks as the first standalone flying theater in Europe, and was brought to Amsterdam with the support of Brogent's longtime partner, Vekoma. It will have a capacity of 40 seats and a 19m dome screen.



Officials open up the Voletarium flying theater at Europa Park. Photos courtesy of Brogent

An experienced aerial filming team from the Netherlands and Germany worked on the nine-minute ride film.

A flying theater for every market

Flying theaters are a unique mixture of cinema and ride simulation and can be effectively placed in a variety of entertainment and tourism settings, including theme parks, mixed-used facilities and integrated resorts. They are also ideal for educational experiences in museums, science centers and planetariums, heritage centers, nature centers, and corporate visitor centers. The possibilities are endless, and Brogent is currently working on numerous projects for a wide range of markets.

Brogent Technologies is a relatively young firm that has come a long way in 16 years. Brogent was founded in 2001 by five entrepreneurs as a boutique provider of digital content creation and software programming. The team was later joined by a group of motion base experts to work on its first simulator project.

Located in the Southern Taiwanese port city Kaohsiung, where steel construction techniques are commonly used for shipbuilding, Brogent Technologies was ideally situated to integrate those technologies to develop a flying theater system, when first approached by a client from the amusement industry in Kaohsiung.

Media-based attraction technology changes at a fast pace, and our company and its products evolve along with it. Our motion base systems now employ electrical power (instead of hydraulic) which simplifies the maintenance and operation of our flying theaters.

In the projection realm, the steady increase in brightness and resolution for projection systems will further improve the flying theatre experience. Several of our recent projects incorporate Christie projectors. Our AV partners help us keep things state-of-the-art, and the first Brogent

Brogent flying theaters around the world

2010

Fly Over Taiwan, EDA World Themepark, Taiwan (45 seats)

2013

Flying Theater, Zhongnan Cartoon City, China (40 seats)

FlyOver Canada, standalone, Vancouver (61 seats)

2014

Fuji Airlines, Fujikyū Highland, Japan (40 seats)

2015

Attack on Titan, Shangshun World, Taiwan (40 seats)

2016

FlyOver America, standalone, Minneapolis (62 seats)

Fly Over the Strait, Shimao Sky City, China (20 seats)

2017

i-Ride, major theme park in Spain (70 seats)

Voletarium, Europa-Park, Rust, Germany (140 seats)

This is Holland, standalone, Amsterdam (40 seats)

flying theater featuring laser projection is just around the corner.

Eleven Brogent flying theaters in eight countries

The installation in the Netherlands represents the 10th big flying theater from Brogent Technologies since our company developed its i-Ride panoramic flying attraction system seven years ago.

Nowadays, millions of guests on three continents take an i-Ride every year, an attraction that allows weather-independent fun for all generations. We're pleased to say that another significant installation is scheduled for opening in Beijing, China, later this year, and that details will be announced soon. •

Stefan Rothaug (stefan_rothaug@brogent.com) is senior marketing specialist with Brogent Technologies Inc. Besides writing as a journalist in our industry for the past 15 years, he has also gathered experience by working part-time for different German theme parks.

What's your favorite dark ride memory?

Join the conversation #DarkRideIt

interviews conducted by Trish Michaels for Sally Corporation

The dark ride's immersive world of illusion and intrigue touches us deeply, creating memories that last a lifetime. Whether it's an intimate ride with your sweetheart, an interactive competition with your family or an educational journey through time, dark rides bring people of all ages together to share a magical moment. What dark ride experience touched you deeply?

**Bob Masterson,
Ripley Entertainment (retired)**

Tunnel of Love | Riverview Park

My very first dark ride memory is of Chicago's Riverview Park when they had the Tunnel of Love. This boat ride took you through a dark area where you could make out with your girlfriend. The darkness, the music, those little hearts floating around on walls – it was a lot of fun! They didn't have animation back then like they have now.



**Tom Canfield,
Santa Cruz Beach Boardwalk**

My favorite dark ride would have to be the Ghost Blasters that Sally installed here back in – oh, I can't believe it's been 18 years. It continues



to draw a crowd. I love that it's so interactive. You have to ride multiple times to get the full experience - not to mention that you're always challenging yourself to get a better score. It seems to change every time you ride it.

**Monty Lunde, Technifex
Pirates of the Caribbean | Disneyland**

Pirates has a great story and fantastic ambiance that's always fun. The ride has so many levels of special effects and story, there is always something new to discover.



**Rick Bastrup,
R&R Creative Amusement Designs**

Yosemite Sam and the Gold River Adventure | Six Flags Over Texas
I built dark rides in my garage as a kid, so I love them all. My all-time favorite has to be Yosemite Sam. I wrote the story of Sam stealing gold. Bugs says in the end, "Don't do the crime if you can't do the time Doc." Sam says, "I hate that rabbit." My kind of story!



That ride still entertains kids 25 years later. On my birthday a while back, my wife and I were in Mexico and happened to overhear two kids talking about that ride. They recalled every little detail. What a great birthday gift



Ghost Blasters Photo courtesy of Sally Corporation



Pirates of the Caribbean at Disneyland © Disney



The Amazing Adventures of Spider-Man © 2017 Universal Orlando Resort



Zombie Paradise at Tokyo Dome Photo courtesy of Sally Corporation

that day talking to some kids who love a ride I designed — and knowing my work brings so much joy to others. Every day, somewhere around the world, people are laughing and making memories on a ride I helped create. That’s as good as it gets.

John McReynolds,
Universal Parks & Resorts
The Amazing Adventures of Spider-
Man | Universal’s Islands of
Adventure



Growing up in Chicago, my first theme park memory is from Great America, which is now Six Flags. Best ice cream in the world. It was fun. My all-time favorite dark ride is Spider-Man, here at Universal. I might be a little biased since that’s our ride. Spider-Man took that genre to a whole new level of interaction.

Cindy Emerick, Dynamic Attractions
Zombie Paradise | Tokyo Dome



Sally Corp. set the bar when it debuted Zombie Paradise in Japan 25 years ago. They loaded it up with all the fun innovations you’d expect in a classic Sally ride from the early ‘90s. It was creepy and very popular. A talking skull and an animated zombie steal the show. I’d sure love to see what Sally could do today developing a zombie dark ride.

Bob Rogers, BRC Imagination Arts
Pirates of the Caribbean | Disneyland



Dark rides can deeply reflect the changing values of a society. For example, in Walt Disney’s original 1967 version of Pirates, the pirates loot the town, abuse the women, get colossally drunk, set fire to the town, then shoot at each other in a burning gunpowder warehouse.

Clearly the pirates will be blown to hell. Thus the deeper storyline is, ‘the life of a pirate is fun for a while, but it ends badly.’ This story line and its moral ending made sense to Walt who was raised in the American Midwest in the first half of the 20th Century. Walt’s version of the story celebrates all our darker energies for a while, but ultimately Walt felt compelled to arrive at a moral ending. The Jack Sparrow overlay of 2008 completely reverses this story and its ethics. Sparrow ends up with the stolen treasure so the storyline now says, ‘it is okay to steal if you’re bold and smart.’ This is a perfect reflection of its time. 2007 and 2008 were an era in which Wall Street greed was getting ready to take America and the world on a deep plunge. Yes, some dark rides illuminate.

Randy Drew, Parc Management
Ghost Blasters II | Elitch Gardens



I’d have to say my favorite is the dark ride Sally built for us at Elitch Gardens. Ghost Blasters was very popular, financially successful and completely transformed an underutilized area of the park. The ride was fast-paced, highly interactive and featured a big battle at the end. Our guests loved it and would stay around to eat, shop, play and ride it again. We saw a dramatic increase in our food, beverage and retail sales. That dark ride did everything a park owner could expect.

Garner Holt,
Garner Holt Productions
Haunted Mansion | Disneyland



My parents took me to Disneyland as a kid and that’s all I’ve dreamed about ever since. I was blown away by the Haunted Mansion and love the immersive nature of dark rides. Something about animatronics just clicked in me, so I started building characters at home on a card table. I never

dreamed that years later, I would actually be putting my own figures into that classic Haunted Mansion. I have to pinch myself once in awhile.

Howard Kelley, Sally Corporation (retired)

Pirates of the Caribbean | Magic Kingdom

Pirates was my first and most memorable dark ride. For me and many others in the industry, it defined a dark ride's potential. I also love the Scooby rides created by Sally. They're so much fun. Just watching all the young children enjoy Scooby was fun.



Tom Wages, International Attraction Services

Ghost Hunt | Lake Compounce

We decided to attract families with lots of fun, big rides, but were missing a dark ride. We explored a lot of ideas, making sure we preserved the historical nature of our park. Sally came up with a castle look of an old mansion that was falling down with some cool aspects to it. At the time, they were selling a ride called Ghost Blasters - one of their newest innovations with interactive shooting. So, we adapted it into Ghost Hunt.



The ride's now been there 17 or 18 years and continues to be very popular. It's always been a crowd pleaser and always ranks very high in park surveys. People just like the experience. It was a great addition, one that truly rounded out the park. Everybody could ride it and did. Because of the competitive element, it became something a family, a couple or brother and sister could do together to compete. It's not as cutting edge as the high-tech rides Sally builds today. But for us, it sure proved to be a winner.



The Haunted Mansion at Disneyland © Disney

Chris Conte, Electrosonic
The Amazing Adventures of Spider-Man | Universal's Islands of Adventure

Spider-Man is one of my favorites because it's the first dark ride that really broke through all the barriers. Never before had I seen so many special effects and a mix of media in a thrilling dark ride environment.



Bonnie Sherman Weber, Six Flags Magic Mountain

JUSTICE LEAGUE: Battle for Metropolis | Six Flags Magic Mountain

My absolute favorite now is JUSTICE LEAGUE: Battle for Metropolis. And of course, the next generation version of the award-winning Six Flags attraction is ours at Six Flags Magic Mountain. I hold it to the standard of Spider-Man at Universal. I've ridden the Justice League rides at our other Six Flags parks and love the experience of riding an immersive video game. And I'm convinced the Los Angeles version sets a new bar and shatters all expectations. We're in a theme park mecca here in Southern California, so we kicked it up a notch or two, with a ton of new bells and whistles, new state-of-the-art technology to really make our mark.



Jennie Nevin, TEA
"it's a small world" | Disneyland
Pirates of the Caribbean | Shanghai Disneyland

When it comes to dark rides, "it's a small world" - at the first Disneyland Park in Anaheim - and Pirates of the Caribbean: Battle for the Sunken Treasure - at the newest Disneyland Park in



JUSTICE LEAGUE: Battle for Metropolis Photo courtesy of Sally Corporation

Shanghai - stand out for me. Individually, each represents a pioneering accomplishment and a great guest experience. Taken together, they trace the creative and international arc that Disney and our industry have traveled in the course of 50+ years.

Larry Wyatt, Wyatt Design Group
Enchanted Voyage | Kings Island
JUSTICE LEAGUE: Battle For
Metropolis | Six Flags St. Louis



My most memorable dark ride is Hanna-Barbera's Enchanted Voyage. I can still hear the theme song. It's a water ride with very, very simple animation, well actually almost flat, 2D paper cutouts like you'd expect traveling through the crazy worlds of HB cartoons. It became one of those beloved generational dark rides that we brought our kids to enjoy because we loved it as kids.

My all-time favorite Sally dark ride is Justice League at Six Flags in St. Louis. We worked with Sally on the design and I'm really proud how well it turned out. This ride proves Sally can deliver a Universal or Disney quality dark ride on a regional park budget. That's pretty special. •

THANK YOU

Sally is honored to be part of an industry that uplifts and entertains people of all ages, nationalities and walks of life – an industry that invites its guests to laugh, play and celebrate – an industry that brings families together to create memories they can cherish for generations.

Thank you for letting us work and play alongside you these past 40 years – for supporting us, inspiring us and cheering us onward. What a wonderful ride we've had. We look forward to another four decades of memory-making magic with you.



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LET THE GAMES BEGIN



Global leader Polin launches new Game Technologies products

by Judith Rubin

Polin Waterparks is a manufacturer with a strong international base, a 40-year history, and a reputation for innovation and technical acumen. Now is an excellent time for a company such as Polin to thrive.

The attractions business demands constant re-invention and re-investment from operators and manufacturers alike, and Polin is keeping in step. “The integration of technology, interactivity and gaming are the future,” says Sohret Pakis, Director of Marketing & Communications, Polin Waterparks. “As our industry is growing, it is getting more complex and our clients are asking for more. That includes technology integration, media integration, social media integration, new products and new materials.”

Polin Game Technologies is launched

The visitor attractions industry is increasingly dependent on technology integration to produce compelling guest experiences, and Polin has placed an increased focus on research and development (R&D).

“As one of the largest waterpark suppliers of the world, we invest significantly in R&D,” says Pakis. “We have about 50 R&D engineers focusing on new projects.” That investment has led to creating a new division, Polin Game Technologies, which, says Pakis, “focuses exclusively on creating new concepts and technologies by strategically combining the experience of our own highly skilled R&D engineers with those of other critical sectors.”

Polin can leverage its solid stance in the industry, its resources and customer goodwill to stay on top. In addition, the waterpark sector has experienced unprecedented growth worldwide, as documented in the 2016 TEA/AECOM Theme Index.

Polin's current list of strategic partner companies includes AWM, WOW Company, Lagotronics, Polymorph, SplashWare and others. Such partnerships are key to Polin's high-tech, whole-product approach. "As a waterslide supplier, we are not only doing waterslides; rather, we are able to offer a complete guest experience package," says Pakis. "We are in a position to offer more to our clients by integrating different parties, products and technologies to benefit them and delight their customers, the park guests."

This approach is reflected in Polin's expanding catalog of unique gaming, interactive and technology-integrated products. Several new Polin products will be unveiled and showcased to the industry at major trade shows this fall (see sidebar).

Polin Game Technologies has a dedicated website: www.PolinGameTechnologies.com

Polin becomes an R&D center

Founded in 1976 and headquartered in Turkey, Polin recently celebrated its 40th anniversary. The company has built a strong base and global leadership, and a reputation for innovation, designing and installing more than 2,500 waterpark projects in 100 countries. All of its manufacturing is done in Turkey, in a 35,000-square-meter (376,737-square-foot) state-of-the-art factory specially designed for waterslide production.

In the course of its four decades, Polin has acquired high business rankings in its home country and within the industry. Earlier this year (2017), Polin received official certification as a research and development center from the Turkish Ministry of Science, Industry and Technology. The company has previously been recognized by the Turkish Exporters Assembly (TIM) for its R&D investments and its exports in 2015 and 2016.

In 2006, Polin converted 100 percent of its fiberglass production to Light Resin Transfer Molding (LRTM) and has continued to raise the bar for the industry with innovations such as special lighting effects; patterned and transparent composites; sound-integrated components; and unique slide designs.



The Polin Waterparks team gathers in front of corporate headquarters in Turkey. All photos courtesy of Polin

Polin new product showcase for fall 2017

Several new products will be highlighted by Polin in its exhibits at three major trade shows in fall 2017: IAAPA Euro Attractions Show (EAS) in Berlin; World Waterpark Association (WWA) in West Palm Beach; IAAPA International Attractions Expo (IAE) in Orlando.

Slide 'n Score

Combines competitive gaming with riding a waterslide. Guests collect a remote controller from a kiosk and log in before entering the ride, choosing one of five difficulty levels. Strapping the unit onto an arm and slipping controllers over their fingers, players have access to multiple buttons that match LED-illuminated targets within the ride.

As guests shoot through the waterslide - which can be either body slides or tube slides - they collect points by pushing the button that matches each target at precise points while sliding past. At the end of each sliding session, guests can observe their score on screens positioned in the landing area.

Advantages touted by Polin: Easy to learn and play, boards or rafts are optional due to the option for installation within standard tube slides, accurate positioning system without use of RFID tags, social media integration

Splash VR

Last year, Polin introduced VR simulators as part of its product line. This year, the trend continues with Polin's first VR waterslide, developed in cooperation with French software company Polymorph. SPLASH VR is the result of an 8-month R&D process, and its first installation is at The Land of Legends, a new resort development in Antalya, Turkey for which Polin was a primary supplier. [see "Turkish Splash," IPM issue #64, Sept. 2016]

According to Polin, SPLASH VR is unique in allowing a VR experience to be deployed as an overlay to an existing waterslide system, and retaining the structural integrity of the slides.

Polin also emphasizes the following design features:

- Indoor "user-tracking" that can be deployed on any slide without affecting the integrity of the slide. Based on a radio wave system, it allows the helmet to know exactly where it is located in the slide by triangulation.
- Waterproof, 3D-printed VR helmets. The helmets display media in 360 degrees, calculate real-time position in

the slide, and are designed for comfort as well as an immersive experience.

- Dedicated, custom media player, able to synchronize playback with the guest's movements and position in the slide.

Mantis - new waterslide concept

At this writing, Polin has provided only a teaser description of MANTIS as an "A-Class signature waterslide" that will have its industry premiere in Orlando at the IAAPA Attractions Expo in November 2017.

Slide 'n Roll

Polin describes this new offering as combining all the company's exclusive technologies - unique sound, lighting and design special effects - into one slide that delivers a full range of sensory stimuli for guests throughout the ride.

The stated benefits of Slide 'n Roll include ease of operation and maintenance, fluorescent effects with special high-tech resin and open-ended theming possibilities.

SplashWare System

Polin will showcase a range of new functions for the SplashWare System, which launched in 2016. SplashWare is a custom, cloud-based "Slide Information System" designed to provide modular solutions for the aquatics and waterslide industry.

The SplashWare system offers a wide range of products geared to operators' needs in such areas as slide safety, reducing operational risks and costs, enhancing the guest experience, encouraging repeat visitation, boosting marketing efficiency, optimizing capacity utilization and facilitating new sources of revenue.



Polin has been honored twice by the World Waterparks Association with the Leading Edge Award: in 2014, for innovation and leadership as supplier of Cartoon Network Amazone Waterpark (Thailand) and in 2016 for “Innovation in waterslide manufacturing that allows for artistic theming, unique patterns and sound effects.”

In 2010, Polin launched the King Cobra waterslide, touted as the world’s first circular racing waterslide and the first waterslide with a theme built in its own fiberglass design. King Cobra was honored by Kirmes Park & Revue as “Europe’s Best Waterslide” in 2012, 2013, 2014, 2015 and 2016. In 2013, King Cobra was named “Most Innovative Product in the Entertainment Industry” by the Composites Manufacturers Association.

“These honors validate our company’s efforts to continue reaching for new goals, and our dedication and commitment to the industries we serve, said Ali Cansun, Polin’s R&D Director. “Polin is recognized as a pioneer in manufacturing technology for waterslide development, and continues to focus on high-quality design and proprietary

innovations. This year, our goals include an increase in the flow of our products and services, emphasizing even greater innovation and quality for our customers.”

Polin at IAAPA EAS (Berlin, Sept 24-28)

Hall 18, Booth #418 (81 m² space)
EAS waterpark forum sponsor

Polin at WWA (West Palm Beach, Oct 16-19)

Booth #733-834
Gold Sponsor

Polin at IAAPA IAE (Orlando, Nov 13-17)

Booth # 1378 (445 m² space)
European Reception Supporting Sponsor; Water Park Operators’ Networking Event Gold Sponsor; Water Park Social Gold Sponsor

Polin has significantly increased its booth area for both IAAPA shows. Inquiries/appointments: Contact Sohret Pakis, Director of Marketing & Communications, sohret.pakis@polin.com.tr •



Polin and Lagotronics partnered on the Splash Cabin, which was displayed at the 2016 IAAPA conference.

ERUPTIONS SCHEDULED DAILY



Universal thinks outside the waterpark with Volcano Bay

by Rick West

In the mature North American market, it's a rare and momentous occasion for a major new theme park to open, and we were happy to have contributing writer Rick West on the spot May 25, 2017, as Volcano Bay at Universal Orlando Resort welcomed its first public guests.

The creation of Volcano Bay is significant not just for NBCUniversal, but as part of the continuing evolution of the Central Florida tourism corridor. The park was designed with its own backstory and lore, steeped in New Zealand themes.

The Legend of Volcano Bay

The Legend of Volcano Bay says that long ago, an ancient people known as the "Waturi" crossed the oceans, in search of a giant golden fish - known as "Kunuku" - to guide them to a new island paradise. Of course, that paradise was Volcano Bay. In the course of the journey, the Waturi were influenced by many different cultures, developing the warmth and friendliness that characterize Volcano Bay, and the philosophy, "Water is life. Life is joy." Throughout the park, guests are greeted with the Maori greeting "kia ora," which offers wishes for good health.

Lay of the land

Volcano Bay is a large property, coming in at about 53 acres. In comparison, Typhoon Lagoon at Walt Disney World is 56 acres. Waterworld in Northern California is 30 acres, and Raging Waters in San Dimas is 50 acres. Volcano Bay is roughly four times the size of Six Flags Hurricane Harbor in Valencia, and of Knott's Soak City in Buena Park.

The park has four zones: Krakatau (the volcano, rising 200 feet into the Orlando skyline), Wave Village, River Village, and Rainforest Village. Combined, they are home to 18 attractions, ranging from wave pools and lazy rivers to heart-stopping slides and plunges. ProSlide provided the park's array of slides and water play attractions.

The attractions range from kiddie pools with tiny slides and charming interactive elements, to world-class, thrill-seeker slides, including Ko'okiri Body Plunge – a dramatic, 125-foot-drop at 70 degrees (near vertical) from near the top of Krakatau. The towering plunge takes only seconds, as riders zip through an enclosed tube through the heart of the volcano and pass along a clear tunnel in one of the park's pools near the base of the mountain.

Also geared toward adults, and intertwined with the volcano, are the Kala and Ta Nui Serpentine Body Slides. Like Ko'okiri, these are body slides that feature trap door-style launches, where riders literally have the platform pulled out from under them, sending them plummeting into the tubes below. The moment is accented by the sound of pounding drums getting louder and louder until the floor drops out, and all you hear is the rush of water and your own screams as you disappear into the darkness.

The trek up the volcano is a visual delight. The views from the slide launch area are stunning, looking out across Volcano Bay and beyond, with wind blasting spray from the waterfalls over the platform and riders waiting their turn. It's an intense moment, adding to the awe and adrenaline rush as guests watch those before them drop from the enclosed launch tubes.

Most of the names featured at Volcano Bay are Polynesian, such as the Kopiko Wai Winding River, Taniwha Tubes, Ika Moana, and TeAwa – The Fearless River. Color proved an excellent shorthand when we couldn't always recall (or pronounce) the Polynesian, as in, "She rode that green one in the volcano!" or, "We rode that yellow one with the rafts."

Our favorite attraction at Volcano Bay is the Krakatau Aqua Coaster, a slide where riders sit behind one another in rafts that have been designed to look like waka taua



Volcano Bay offers a lush tropical landscape populated with thrilling rides. All photos courtesy of Theme Park Adventure



(Maori war canoes). This unique water coaster doesn't rely solely on gravity, but rather, linear induction (magnetics) to propel each raft very rapidly up steep hills before sending them careening down another drop or through a series of banked turns within the volcano itself. We found the ride experience both new and extremely exciting, and it appears to have quickly become a guest favorite.

Volcano Bay has an abundance of food and drink in every section of the park. The park has two featured bars – Dancing Dragons, and the Kunuku Boat Bar. There is a delightful specialty beer guests will enjoy: Volcano Blossom, a custom brew for Universal.

Throughout the park are cabanas for rent. With your private cabana rental, you get a secure place to store your things, a personal server for food and drink, and great views of the park, if you happen to get an upstairs space. Each cabana comes with its own TapuTapu kiosk, from which guests can reserve their rides while relaxing in the shade.

There are also lounges and chairs available on the beaches and elsewhere. We never had a hard time finding a place to sit, and just about every beach or seating area has fine views of Krakatau and other park features.

The tale of TapuTapu

One of the biggest cornerstone ideas of Volcano Bay is that the park features “virtual queues” for its attractions. Upon entering the park, each guest is given their own TapuTapu wearable band. You walk up to an attraction entrance and put yourself into a virtual queue by “tapping in” at the kiosk with your TapuTapu. You receive a message on your TapuTapu LCD display telling you how long your wait is going to be, and the band vibrates to remind you when it's time to return.

TapuTapu doesn't completely eliminate waiting or queuing, due to such factors as normal dispatch intervals and operational factors, how full the park is on a given day, and how much time remains before closing when a guest tries to reserve a spot in a virtual queue.

TapuTapu also streamlines the process of purchasing food, beverages, and merchandise throughout the park, as well as rental locker operation. There are also interactive elements that guests “Taptu Play” throughout the park that trigger water fountains, special effects, and even a selfie station. Technifex was supplier of show action equipment and special effects for the Taptu Play system in the park.

Theme park...or waterpark?

Universal has branded this third gate as its newest “theme park,” raising immediate debate from all corners on whether it is a theme park or a waterpark.

It’s a gated property with an entry fee, just like most other theme parks. And the park tells a story; a central story idea that is executed throughout the park, and that you experience throughout your visit. The structures and settings are themed in detail throughout the park, setting the specific tropical tone and playing into the backstory. Each attraction has a themed name and its own given lore. There are food, beverage, and merchandise locations throughout, all geared toward the theme and overall experience.

Theme parks are for families, and just about every attraction in Volcano Bay is family-friendly. Volcano Bay is planned to be a year-round park, and waterparks have traditionally been seasonal... but we have seen, as the industry matures and expands, numerous strategies to extend the operating season of a property.

It’s true that all the attractions at Volcano Bay are water-based. The rides aren’t rides - they’re slides. But must a

theme park be defined by an arsenal of iron attractions or dark rides?

I imagine we can all agree that Volcano Bay is much more than a waterpark, even if you can’t bring yourself to define it as a theme park. In the end, it’s a gorgeous property, regardless of how fans or professionals want to classify it. It’s fun, it’s thrilling, it’s relaxing, and it’s something we will do again.

Universal has created something very special that takes them to the next level on the Orlando playing field. From the designers to management, construction crews to maintenance folks, from lifeguards and ride operators, to the bartenders and the ticketing team, everyone should be extremely proud – Volcano Bay is here, and it is beautiful! Kia ora, everyone! •

This article first appeared on ThemeParkAdventure.com and is reprinted here with permission.



Rick West (rickwestTPA@gmail.com) is founder/editor of Theme Park Adventure, creative director of Midsummer Scream and show writer for Rethink Leisure & Entertainment.



InvadR: Down to the last nut and bolt

How Weber Group helped bring Vikings to Busch Gardens

by Joe Kleiman

After a centuries-long slumber, Vikings have awakened and attacked the French colonial settlement of New France. A battering ram has torn down the village stockade, and guests to Busch Gardens Williamsburg (BGW) join the epic battle aboard Viking ships or the villagers' boats aboard the park's new wooden roller coaster experience, InvadR.

The ride was built by Great Coasters International. Its Viking-battle-themed entranceway and signage were brought to life by an internal/external team. Conceptual designer Cindy White and Art Director Melody Matheny, both independent contractors hired by SeaWorld's Deep Blue Creative studio, worked closely with fabricator Weber Group and Weber project supervisor Jim Doiron. Guernsey Tingle was the architect of record. Suzy Cheely, Busch Gardens' Director of Design and Engineering, oversaw the project for the park.

Busch Gardens Williamsburg opened in 1975 on 373 acres of land in Virginia. Its theming represents Western European nations Great Britain, Germany, Italy, Ireland, and France. The French area of the park has two distinct areas: one represents the provincial village of Aquitaine, and the other New France, the French colonial settlements that became modern-day Canada.

Lost in time

Historically, the Viking era ended in the late 11th Century, while the first permanent French settlements in the territory called New France would not be established for another 600 years. At Busch Gardens Williamsburg, this lapse of time didn't pose a problem. This is, after all, a park that over the years has been home to fairies, ghosts, and woodland spirits, so bringing Vikings into the mix wasn't too far-fetched. Previously frozen in time, they have now awakened from their slumbers and attacked the trading settlement unannounced.

"The 'lost in time' concept goes back [at least] 200 years to Washington Irving and Rip Van Winkle, so it was a pleasure to have a spin at it in creating an attraction," said White. "We just dove right in pretty much like



Weber installs the themed entrance to InvadR. Photo courtesy of Weber

angry, disoriented Vikings who finally broke free of the ice in Newfoundland after 700 years and took out their frustrations on the unfortunate French settlers of New France. The time periods didn't really have to 'combine,' per se, but rather the Vikings just had to burst in. We understood the challenge of merging the colorful, Nordic patterns in the Viking sections with the duller rustic wood of the frontiersmen. It is not only a battle for survival for the two parties, it was also an artistic battle of two styles, jockeying for attention and supremacy from the two competing ride vehicles, the graphics hanging throughout the attraction, and even the props and weapons scattered about."

Blending into the neighborhood

White's concept for the entrance involved a 20-foot tall battering ram crashing through the gates of New France's protective stockade. Guests walk through the broken gates and under the battering ram to reach InvadR. Cheely pointed out that a wood coaster fit perfectly in this area of the park, designed as a village of log buildings, set in the woods. The track twists and turns through the woods, with its lift hill passing over the lumbermill-themed Le Scoot flume ride, before crossing over the park's railroad four times.

Matheny, who oversaw the art direction and signage, said, "The overarching storyline was inspired by the adjacent

log flume. The creative narrative of InvadR indicates that the Villagers in New France are loggers and their town is created from the trees that lie on the edge of a river. In order to fight this Viking invasion, they did what they do best: created boats from local wood that resemble bears (the symbol of their people) to chase away the Viking vessels.”

Weber Group handled the fabrication of the signs and the entrance stockade, with its broken gates and battering ram, working from White and Matheny’s design concept. Shop drawing and fabrication drawings were produced, with the overall entrance structure being computer modeled in 3D. Doiron supervised a crew of 20 people to complete fabrication over a six-week period at Weber’s Indiana plant, followed by another two weeks for installation.

Authenticity

A lot of attention was given to evoking the feeling of authenticity. Regarding the signage, Matheny said, “Each sign’s ‘origin’ was analyzed against the Creative Narrative. First as: where is this sign located and which side (Viking or Villager) did it belong to? Once that is decided, the question was how would the Viking or Villager have fabricated a sign like this? Was it made hastily from boat parts or was it hand crafted by Villagers and subsequently damaged by invading Vikings? Each sign has its own story.” She noted that some of the signage uses a stretched-hide style that echoes a similar treatment at the nearby Smokehouse restaurant.

Creating custom, faux wood elements accompanied by unique signage is something Weber has done for numerous clients. “It’s very similar to work we’ve done on a number of waterpark resorts such as Kalahari, Camelback in the Poconos, and the Great Wolf Lodges,” said Doiron.

The existing wood elements in this area of the park were examined by Matheny along with Guernsey Tingle architect Rich Smith. It was important that the portion of the stockade comprising the entrance to InvadR blend in flawlessly with the existing stockade, comprised of 8-12” timbers. The initial concept was to use actual timbers, but the decision was made to construct them of fiberglass and epoxy instead. “Shattered timbers would take some doing, but we needed something secure and structurally sound,” said Doiron. “Safety was always a concern.”

The wood was made to look aged and as if the battering ram had actually forged its way through the gates – some parts of the wood have bark, others do not, and worm paths are visible, just as they would be in real wood. “It was amazing how close they came to the real logs – in texture, coloring, and everything else,” said Cheely.

The all-important battering ram

The battering ram was constructed around a steel frame. White said, “As fun and theme-parky as the battering ram appears, most of it is fairly authentic except for the head. This project, like any theme park project, had to start with lots of historical, authentically sourced research. Even if the goal is to end up with something wholly and completely inauthentic to match a story or brand, it is the designer’s responsibility to start from real.”

While actual battering rams would have had heads made of bronze, the team considered the urgency with which the Vikings would have acted, impatient to make their move after seven centuries of dormancy. White said, “I doubt these guys would have bothered with any of the decor. ‘We have come to claim your fort!! We will take it in about one to two weeks when we finish our battering ram! AND another week for the cool dragon head!’” Instead, a wooden head was designed, with scroll work resembling Nordic patterns in the tongue.

Weber’s team lovingly fabricated the battering ram “to look like it went through war,” said Doiron. “We fully painted it as if it were just made, then we went back in and sculpted in charred parts of wood and sprayed on charring. There are elements in the piece where it looks like it was damaged by swords or other elements of battle.”

A big challenge for Weber Group was designing the battering ram so that it could be fabricated in segments in Indiana, shipped to the park in Virginia, and then reassembled on site. Through the use of 3D modeling, they were able to determine where to break apart the 20-foot high frame so that it would fit in trucks for shipping. Meanwhile, Weber kept their client updated on progress. “During the fabrication process, we had calls weekly and they sent pictures,” said Cheely. “They would go around with an iPad, showing how things were in the shop.”

“We were able to match Cindy White’s designs with 90% accuracy,” said Matheny. “Every part of it was analyzed to attempt to recreate the appearance of a functioning ram while satisfying safety issues and an impressive entrance and exit sightline. Cindy is a consummate pro in visual communication. And ultimately, great designs cannot reach their potential without the expertise of a great fabricator. Weber Group’s people were wonderful to work with. They are true artists, and are detailed and story-driven down to every last nut and bolt.” •

Bespoke inflatable toys: better by design

When choosing between custom-built and mass produced inflatable toys, discerning buyers prefer personalization

Since 2002 an unwavering dedication to product innovation has helped FreeStyle Slides dominate the custom inflatable toy market. Today the company offers the most comprehensive line of bespoke inflatable products in the industry.

“We are the only truly bespoke supplier of inflatable products in the world,” explains Stephen Philp, Chief Executive Officer of FreeStyle Slides.

FreeStyle clients can choose from an array of custom color and logo options for their slides and toys, but what makes FreeStyle unique is the

custom design work that goes into their products beyond colors and logos. The FreeStyle Slides team works closely with each client, ensuring their product fits their location or yacht like a glove.

A FreeStyle slide or toy that is built-to-order is carefully designed to work with the exact specifications to suit your location. “Our clients like that we design their products to aesthetically coordinate with their surroundings, and what sets us apart from any other inflatable manufacturer in the world is our willingness to do just that and more,” says Philp.





For example, FreeStyle Slides frequently receives requests for custom jet ski docks. “Our customers want a jet ski dock that fits their dive platform or transom perfectly, like it’s an extension of their yacht.” Philp explains. “We leave that feat to our engineering team. Our engineers are meticulous.”

Bespoke by Your Design

Beyond manufacturing products for a perfect fit, FreeStyle can also turn the slide or toy in your imagination into a reality. The company’s philosophy has always been to create novel products and search for ideas that have never been done before. “If you can dream it, we can build it,” Philp says enthusiastically. “We love working with creative clients who want to construct their own personalized theme park!” The possibilities are endless for visionary clients that want one-of-a-kind toys.

Constant Innovation

In addition to creating new products, FreeStyle Slides continually strives to maximize the fun and safety of its inflatables while minimizing the workload involved by innovating its existing products. “We want everyone to enjoy our slides and toys, not just the patrons but the employees who have to run and operate them,” says Philp.

The key is to help our clients ease the biggest pain points of owning and operating toys: set up, takedown, weight and storage.

FreeStyle Slides has the most comprehensive line of bespoke inflatables in the industry, including an array of land and sea based products. Their latest innovation is a brand new take on the popular aqua park which includes the tallest floating inflatable slide in the world.

Learn more at freestyleslides.com or call +1 727 563 2003.

Uniquely European

Creative innovators of Europe in themed entertainment

edited by Joe Kleiman

The unique and influential brand of creativity that comes from designers, technical specialists and park operators in Europe has had a strong impact on the global attractions industry.

Nick Farmer of Farmer Attraction Development Ltd. (UK) emphasizes Europe's centuries-old heritage and culture. "Europe's parks tend to be quainter [compared to American parks], with a feeling of tradition and timelessness. So when we do a project based on something like Grimm's Fairy Tales, we tend not to lighten up the fairy tales. It might just be a little darker," said Farmer, who is a past president of TEA and whose projects include many dungeon attractions.

Farmer pointed out that a large proportion of European parks are privately owned, even by a single family over generations. Regionally, this has shaped the culture of the industry. "Usually they know who they want to work with and they contact us directly," said Farmer. "Museums might be a different situation because of municipalities and private authorities, but with most parks, there's often no requisition. We just negotiate the terms."

The close relationship between vendor and client has helped foster a unique individual style for each creative firm and designer based in Europe, many of whom have become successful, influential international players and game-changers as the industry grows. This creativity is reflected in parks, attractions, resorts, museums and heritage centers, events and spectacles and other venues in Europe and around the world. We asked some of these creative leaders to share their latest projects with us.



Joe Bright Scruffy Dog Design, Create & Deliver



Based in the UK, Scruffy Dog Design, Create & Deliver, founded in 2010 by CEO Joe Bright, is a turnkey provider, offering creative design, fabrication, and installation. Clients have ranged from Merlin Entertainments to new theme parks in Dubai. The company has roots in television production design.

"Located in the historic area of Porto, Portugal on the South bank of the River Douro, The World of Wine is being positioned as a world-class visitor experience, occupying more than 30,000 square meters in total. Responsible for funding the project is The Fladgate Partnership, the company behind some of the oldest port houses including Taylor's and Croft. We met The Fladgate Partnership team at The Museums + Heritage Show 2016, in Hammersmith. We clicked with the project team and arranged a follow up meeting in Porto shortly after.

"We have been tasked to curate and bring The Fladgate Partnership's inspiring proposals and visions to life. When dealing with a complicated and historic production method that relies on so many variables and has such a cultural influence on the region where it is produced, our challenge was to create content that was suitable for a beginner who knows nothing about wine while not patronizing, and providing the in-depth information without intimidating.

"This project attempts to not only inform and entertain with impressive aesthetic statements and interactivity, but also break down the common misconception that wine resides and exists only for a particular demographic. The World of Wine and Scruffy Dog intend to create an inclusive experience that inspires all to enjoy and appreciate the taste of the product as well as the fascinating methods used in its production."

Concept design from The World of Wine. Photo courtesy of Scruffy Dog

Nicolas de Villiers
Puy du Fou park,
Les Epesses, France



The modern show park was born in 1977 when aristocrat Philippe de Villiers discovered the ruins of the Puy du Fou castle and was inspired to write an epic production about a local family spanning six centuries, performed the following year by a cast of 600. A decade later, the park - which portrays French history from the 3rd Century AD through the First World War, through 25 shows and attractions - is considered one of the top theme parks in the world. It has received three Thea Awards, including the Thea Classic. Philippe's son Nicolas is President of Puy du Fou.

“Puy du Fou seems to be the only park that deals with dramas to entertain people. We move them with some stories inspired by history. History is often sad, but Puy du Fou draws from it the greatness of human beings. From the young children to the grandparents, everybody can share the same emotion in every show we present. And as show creators, we always look to present something unexpected - because we don't offer what people like, but rather what they could like.

“Puy du Fou has always consulted the best professionals in every field to fuel its bold creativity: Architect Christophe Rabiller, interior architect and designer Thierry Rétif, costume designer Olivier Bériot, and decorator Dan Weil (who have worked regularly with Luc Besson), help to ensure the artistic synergy of the sets and costumes.

“One recent project is Le Denier Panache, which tells the story of François-Athanase Charette de la Contrie, a French naval officer and hero of the American War of Independence, who saw his life change dramatically in 1793, in a final fight for freedom! Conceived and produced entirely by Puy du Fou, this unparalleled performance has a grand 360° stage in a revolutionary hall measuring 7,500 square meters: Le Théâtre des Géants.”

Le Denier Panache. Photo courtesy of Puy du Fou



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Typhoon Water Park,
Ha Long Bay, Vietnam

Rosalind Johnson
Timbalaya



A career that started in marketing and branding, moved to themed entertainment and ended in the cultural attractions sector for the last 15 years, Rosalind has worked around the world developing projects for national museums, the arts, The National Trust and others looking to cross the divide between culture and entertainment. Now as the Guardian of Wishes and co-founder of Timbalaya she's using her skills to bring a fully developed, interactive park to life. Timbalaya was created as an entertainment IP that will stretch across attractions, publishing, games, digital content and films. Its parks, due to open 2019/20 are marketed worldwide as a franchise opportunity. It's an unusual approach to develop a new IP and brand concept independently and then bring them to themed entertainment markets in this way, but Timbalaya has a seasoned team behind it and intimate knowledge of its customer base.

“When we dreamt up Timbalaya as an entertainment brand and then as an attraction concept, we stayed firmly in the dark for about a year to give us time to play with ideas without any pressure. Looking back, I'd say this gave us a fantastic sense of freedom to explore new ideas.

“Storytelling is at the heart of Timbalaya, and our attractions are an immersive outdoor experience using the natural environment as our backdrop while reflecting the magical world that author Georgina Parfitt has created. At every step, we're being true to the story yet imaginative with the physical experiences for children and their families to play in.

“We believe creativity can come from anywhere but only if you set yourselves up to be receptive to unusual thinking. We engage and create with illustrators, designers, writers and makers as you would expect from an entertainment brand. But we also engage with children, disrupters, educationalists, nerds, playmakers, rule breakers and artists. So, expect the unexpected when our parks open in 2019/2020.”



Concept sketch of Timbalaya. Photo courtesy of Timbalaya



Liseberg at night

Andreas Andersen
Liseberg Park



Internationally, Liseberg might be best known in our industry for the Liseberg Applause Award, granted every two years to a park whose “management, operations and creative accomplishments have inspired the industry with their foresight, originality and sound business development.”

But Liseberg Park itself is one of the most popular theme parks in Scandinavia and has become well known for its seasonal festivals – and as noted below, Liseberg is part of a robust Scandinavian community. Park CEO and President Andreas Anderson serves as First Vice Chair of IAAPA and is slated to be sworn in as the 2018 IAAPA Chairman this November.

“I believe that we are a very creative company, but I would say that we rather have been good at applying general innovations from the industry, than re-inventing the wheel on our own. If we, for example, introduce a new season – Christmas or Halloween – we have not been first movers. But we have made both seasons our own, and distinctively Liseberg. And I would also say that we have done them at a high creative and qualitative level, setting us apart from the competition.

“I think, that when you operate in a regional market, and in a market which is rather mature, you need to have a lot of focus on keeping the product fresh. That development, creativity and – as a consequence hereof – reinvestment are in the very core of the DNA of the parks.

“Scandinavia has a very long and strong tradition when it comes to amusement parks. The world’s oldest amusement park is Bakken; one of the world’s first theme parks (or pleasure gardens) is Tivoli, and the local appeal of parks in Scandinavia is extremely high. All this has been driven by regional development, and a focus on the local market. If you want to attract visitors again and again – and cross generations - you need to be creative. Always give the guests an excuse to go back. You can’t rely on tourist flows; you have to stay relevant to your local market.

“I actually think that this is why you will find some of the most robust and high quality parks in Northern Europe. A combination of a strong, culturally based tradition, and a focus on local guests, as the foundation for the parks success.”

Kevin Murphy
Kraftwerk Living Technologies



Austria-based Kraftwerk Living Technologies specializes in the creative integration of media systems, show control, and lighting. Its projects can be found worldwide from Asia to Europe and North America, including award-winners, such as the BMW Welt in Munich, and the 5D Castle Theater at Chimelong



Artist rendering of a coral reef at National Geographic Encounter: Ocean Odyssey. Photo courtesy of National Geographic

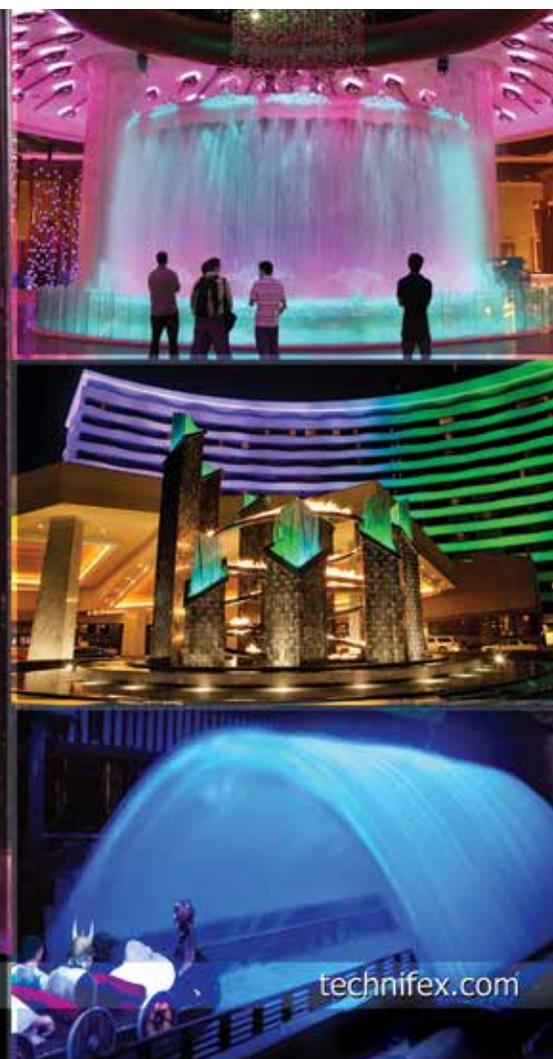
Ocean Kingdom. Kevin Murphy is Kraftwerk Vice President of Strategic Planning.

“Key strengths of Kraftwerk LT and crucial factors behind its success and growth are the company’s broad range and technical experience – often working at the cutting-edge but always with profound expert knowledge of the latest technologies. While entertainment is certainly a key business sector, it is often the work in the high-tech automotive industry that allows the Austrians to venture for innovative solutions, which form the basis for new creative ideas in the AV entertainment market.

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“A recent example for this is National Geographic Encounter, which opens its doors with Ocean Odyssey to the public in October 2017 in New York City’s Times Square. It is a 90-minute, self-guided walk-through immersive experience, with each scene technically unique. Together with SPE Partners, the developers of National Geographic Encounter, and the project’s other creative teams, the experts from Kraftwerk Living Technologies pushed the boundaries of technologies. The challenging technical feats include a unique blending of video mapping, 8K photo-realistic animation, mega projection screens, immersive spatial soundscapes, interactive ‘real-time’ audience tracking and a giant dome finale... just to name a few.

“This unique entertainment experience transports audiences on an incredible undersea journey, allowing them to interact with sea lions, play with rays and dolphins, and come face-to-face with humpback whales and great white sharks.” All of the underwater experiences were created by Pixomondo’s global VFX studios.

Donna Davidson
BRC Imagination Arts



Donna Davidson had already had substantial international project experience as Global Project Development Director for BRC Imagination Arts when she relocated in 2003 from the company’s US headquarters (in Burbank, CA) to a local office in Durham, UK. Davidson has remained involved in projects around the globe including the Abraham Lincoln Presidential Library in the US, the Museum of Liverpool in the UK, the Information Communication Pavilion at Shanghai Expo 2010, among many others.

“Irish Distiller’s Limited was looking at redoing the guest experience at their original Jameson distillery on Bow St. where John Jameson began making Irish whiskey in 1780. They were maxed out on capacity and needed to increase throughput and efficiency within the existing footprint of the historic building. They also wanted to share the Jameson story in a more compelling, immersive way. They chose us as the lead design agency for the project because we understand how to create a holistic guest experience. We consider every element throughout the brand home, leading to a deeper guest connection to the brand and improving daily operations and revenue.

“The new Jameson Distillery Bow Street opened in early 2017 in Dublin. We worked on listening and uncovering Jameson’s history with the archivist; story and experiential development; media direction; conservation;



Entrance to the Jameson Distillery Bow St. experience. Photo courtesy of BRC Imagination Arts

infrastructure; city planning; operational planning and design; staffing, casting, and rehearsing the different tours and tastings; retail; and whiskey and cocktail tastings.

“The overall placemaking and scripted experiences are filled with artifacts, epic adventure, and interesting characters that bring the history and process to life in a fascinating way, aided with a little technical magic. Jameson has a great motto - Sine Metu - which means ‘Without Fear,’ and that comes through in the guest experience. Guests learn about Jameson through a variety of multi-sensory activities such as feeling, smelling, and tasting the ingredients; deconstructing different blends; or making their own cocktails. Bow St. also includes exclusive retail and whiskey offerings and JJ’s Bar where guests can enjoy live events and share great drinks and good times with friends. It’s become a great favorite with the locals and tourists alike.”

Chris Lange
Mack Solutions



Mack Rides is one of the oldest ride manufacturing companies in Europe. Its theme park, Europa-Park, in Rust, Germany, began in 1975 as a showcase for the company’s products, eventually taking on a life of its own. A number of innovative Mack divisions began in the park and are now doing work worldwide, including Mack Media and VR Coaster. The park’s newest attraction, a flying theater called the Voletarium, is centered around the new thematic concept of the Adventure Club of Europe. Key to its design is Chris Lange, the Creative Director at Mack Solutions.

“Mack Solutions is like Europa-Park’s version of Imagineering. We handle the creative designs within the theme park, the upcoming waterpark & hotel, and also for external clients and their attraction and theme park projects. The Mack family owns Mack Rides and the park and hotel as well. Our newest attraction is



Voletarium's highly detailed building greets guests at Europa-Park. Photo courtesy of Europa-Park

Voletarium, which opened at the beginning of June. The director on the film was brought in from the outside, but Michael Mack was the producer and went to every shoot throughout Europe to guide the process. We made sure we consulted with local people during the production. The Voletarium was a big new adventure for Mack Media, our media production division.

“The story centers around two Eulenstein brothers who have a research lab. One studies nature, like birds. The older brother is a professional watch maker from the Black Forest. We've taken an approach of environmental

storytelling: The story is conveyed through sets, special effects, and audio – completely through the physical environment. Guests travel through an extended series of preshow spaces. They walk through the Institute, they enter a library with stories, then a workshop, where a flying machine is covered but being worked on. There are animatronic owls and a big observatory to look onto nature. There is also a mechanic's workbench with everything more organized. A futuristic looking drone tells the story of the two brothers, and presents a safety video on a hologram projector. Once on the 'rooftop,' we dispatch 70 people into each of the two theaters. The entire experience is completely immersive – the lights are hidden, the AC hidden.

[Editor's Note: For more on the technology involved in The Voletarium, see p. 44]

“The Voletarium is a standalone attraction that introduces the Adventure Club of Europe [ACE, whose members include an eclectic group of fictional European inventors and explorers, including the Eulenstein brothers.] At the park, there will be some other areas or even attractions which will feature the ACE. To go along with the attraction, we also developed Sky Explorer – a smartphone AR app/mobile game that also interacts with one of the Voletarium preshow elements.” •

eleventh hour

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Operationally speaking

Martin Palicki's conversation with Brian Machamer,
Vice President – Theme Park Operations, Dubai Parks and Resorts

Brian Machamer came to Dubai Parks and Resorts (DBX Entertainment) with decades of experience in the theme park industry. The start of his career began at Walt Disney World Resort in 1988 with a summer job. Machamer joined Universal Orlando in 1990 and was fortunate enough to grow up through the ranks while having the opportunity to work in various areas of the Resort, and then transitioned overseas to help support the opening and ongoing operations of Universal Studios Singapore. He joined DBX four years ago, during the development of the Dubai resort property. Comprised of three theme parks, one waterpark, a retail and dining promenade and a tropical hotel, Dubai Parks & Resorts bills itself as a destination resort, providing a complete vacation package in one property. Various elements of the resort began operation in October, 2016, and continued with phased openings over the next eight months. InPark had the opportunity to interview Machamer in person at the Lapita Resort during a recent visit to the property.



Brian Machamer

CHANGING THE GAME

How are the Motiongate and Bollywood parks changing entertainment and tourism within the UAE region?

Within this region, Dubai is already a popular tourism market with easy access to Europe and Asia. Our goal was to increase length of stay. We partnered with leading studios to create a unique offering - a combination of indoor and outdoor attractions, with many air-conditioned environments to escape the intense heat.

Bollywood has a global following with a heavy focus on live entertainment. In Bollywood Parks Dubai we also offer traditional rides, but the stars of the park are the big, iconic Bollywood films that are represented inside. For those who may not be as familiar with the Bollywood film industry, it exposes them to a new genre of entertainment. It is also unique in the inclusion of the Rajmahal Theater and its resident show, Jaan-e-Jigar. This one of a kind Bollywood musical is packed with the perfect amount of Bollywood in a spectacular Broadway-caliber performance.

Motiongate is the cornerstone park here because of its appeal to different generations. It provides a good mix

of attractions and allows for flexibility in the future. Only 50% of the available land has been developed, allowing for plenty of room to grow.

How did you choose what kinds of attractions to include in the parks?

I think it's very important to evaluate and understand your market. In this area, our market has very little direct competition, so our strategy has been to create a wide range of attractions that are highly themed. We wanted ride reliability so we chose proven technologies and products over experimental new-concept rides.

There may be a theme park war eventually as more properties are built, which will provide the impetus for such future development, but the market needs to mature for that to happen.

GUEST FAVORITES

What have been the most popular attractions so far?

At LEGOLAND, the indoor Miniland is the center of the park and the most popular. Because it is indoors, we can control the lighting and provide more special effects in the models than at other LEGOLAND parks

At Bollywood, the Krrish [a 4D flying theater] and Sholay [a 3D interactive dark ride] rides are most popular, but one



Motiongate park features a variety of branded attractions from different film studios in one park. Photo by Paul Williams

cannot leave without enjoying a live show inside the iconic Rajmahal theater.

At Motiongate, people are enjoying the indoor Madagascar Mad Pursuit launched roller coaster but we expect Dragon Gliders [an inverted powered coaster] to be the most popular. [Editor's Note: The How to Train Your Dragon portion of the park opened in late April, after our interview.]

How did you balance the need for thrills versus family-friendly rides?

In Asia I've found that guests tend to prefer attractions the entire family can enjoy together, but in the Middle East, people are interested in thrills, particularly here in the Emirates. This certainly is in alignment with what we have seen from our guests so far.

We are currently building Six Flags Dubai to complement the existing parks and increase the thrill factor. From our market research, Six Flags has good brand recognition and will propel us forward. The park will have lands that are themed around the different Six Flags parks in the United States. Planned areas include Great America, reminiscent of America in the 1950s; Fiesta Texas, representing the Old West; Great Adventure, emulating the Pacific Northwest; Magic Mountain, a futuristic themed area; the Great Escape, a dedicated kids area (though kids' attractions will be found throughout the park); and an entry zone to the park known as Thrill Seeker Plaza.

How do guests tend to navigate the complex of parks?

We have noticed that guests tend to go to LEGOLAND first, so that park opens and closes earlier. Guests then go to Motiongate and end the evening at Bollywood. Using RFID ticket media has made it much easier to track our visitors throughout the resort. We are currently working with Nielsen on guest satisfaction surveys and collecting lots of demographic data. We will be analyzing that data throughout the year and adjusting as appropriate.

STAGGERED HOURS & STAFF TRAINING

What are some of the lessons learned since opening the parks?

We have been regularly tweaking the park hours since opening. School groups are a big part of our scheduling, so we try to keep staggered opening hours for the parks, allowing schools to have special access to certain areas. We are also pursuing corporate business and working towards adopting an operating model that allows for that.

Our sales staff mostly comes from the hotel industry, so we are training them on how to maximize use of our specialized spaces for corporate events. For example, we recently hosted a networking mixer for the Themed Entertainment Association inside our Hotel Transylvania dark ride – which provided a unique space you can't find elsewhere. We are willing to experiment and are learning

how to utilize the assets within the property for exactly this purpose.

Now that the parks are open, one of my biggest challenges is in training and maintaining seasoned and experienced staff for the existing parks and of course to transition manpower to the Six Flags park once they get closer to opening. We really had to create an industry here and cultivate a workforce. We currently have over 200 Emiratis working here now and we are working with schools to develop training programs to nurture future staff.

VENDORS & WORKFORCE

What has the process been for selecting vendors to work on the parks?

We have had great leadership with Paul LaFrance and Matthew Priddy, but it has been tough with the construction of Shanghai Disneyland happening at the same time because many of the experienced vendors had a lot of their resources already committed in China. Vendors were naturally cautious in the early days because of the delays involved with the Dubailand project, but we have matured and moved past that.

We are finding that a lot of vendors are now setting up operations in Dubai, which makes our future development and planning easier. [See “From sawmills to Smurfs” in IPM issue #66 for more on how one vendor, Wärtsilä Funä, approached working for DBX]

What kind of training do you provide front-line employees?

Our training program is pretty standard for most theme parks. Everyone receives a base-level corporate induction and then moves on to their specific on the job training in the parks. We focus on proactive training for handling challenging guest concerns and emergency situations.

Can you provide some statistics on your workforce?

Labor management is the number one challenge for us here. We have just over 2,250 employees in the summer period and that number will climb to 2,750 employees during the winter period. Our unique challenge is that there is very limited seasonal or part-time work available. We don't have a retired population to draw from as is popular in Europe and the US. Here in Dubai, we are responsible for providing accommodation and services for our employees. We wanted an international vibe, as two-thirds of our visitors are from outside the country. Therefore, we have been recruiting around the world and

are working with the government to ease visa restrictions for our workforce.

We have to show local young people that this is a fun job and there can be a future in this industry.

FUTURE EXPANSION & GAUGING SUCCESS

Tell us about expansion plans.

We are expecting the Six Flags park to open in the fourth quarter of 2019. We are also working on a joint venture for a Legoland Hotel that has a two-year construction timeline. There are incentives in Dubai for developers to build more 3-star properties, which will greatly help to drive a core overseas market segment we are hoping to capture.

The resort is strategically located near Dubai's Al Maktoum Airport (DWC), which is expected to become the region's largest airport (surpassing Dubai International Airport, DXB) in the coming decade. We also expect more residential areas to be built nearby and more development around this area. With the expansion of the metro to this area in advance of Dubai Expo 2020, the resort is only one piece of a larger plan for this area.

How are you measuring success?

You have to look at the service level in addition to balance sheets. When delivering a product, everyone will make mistakes – this is a huge project and we will be learning and growing for some time. Dubai Mall debuted without all its stores open and Emirates was once a small airline. We are focused on growing in the long term.

Our management team is looking at 2017 as an extended soft opening. Overseas tour bookings are typically done at least nine months in advance, so we could not go big on tourism and travel promotions overseas until the parks were up and operating, so that element of the business is moving forward now.

The government is also invested in helping make the project a success. Recently visitors from China became eligible for a visa on arrival and if you are an Indian national with a United States Visa or Green Card, no UAE visa is required.

For a long time, a lot of people have bet against Dubai, but the results speak for themselves. The macro economic trends are still strong, and as we start achieving our goal of increasing guest length of stay, the other metrics will follow along with that. •



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