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+ THE LATEST

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EXPERIENCE NWAVE'S NEW 4D ATTRACTION



A Red Star film directed by Ben Smith
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Pretty much every leisure time activity we undertake involves booking

in advance – it's a fundamental principle of the operation of restaurants and hotels, theatres, health clubs and sports events. It enables yield optimisation, staff allocation, crowd control and budgeting and it limits fraud.

In an increasing number of cases, it also involves payment in advance – theatres and sports events have always done this: book a ticket for a show today and you might pay in advance for a performance which is a couple of years away.

This means that the treasury function within these businesses is a major part of their cash flow and makes a significant contribution to operating profits.

And other leisure operations are following suit – there are now spas that take advance payments and hairdressers and restaurants which take credit card details on booking and make a no-show charge if you don't turn up.

It's fair they do – they're selling time and time's perishable: it's a matter of self preservation in an era when people are increasingly in a 'last minute' mindset.

Membership has to be the ultimate goal of any business in this industry, as it spreads payments, gains commitment and loyalty from customers and gets paid, even if they choose not to use it.

Attractions are the last bastion of the 'pay on the gate' approach and it's time for this to change. Too many operators



sit and wait each day to see if enough customers show up to enable them to pay the bills – it's a hand to mouth existence which is absurd when such incredible technology is available to ramp up a whole load of great alternatives (see ticketing feature on p87).

More sophisticated operators have always offered memberships – I spent practically every weekend at Legoland on a membership ticket when my children were little – but this is the exception rather than the rule and the majority of gate money is taken on the day (or not, if the weather turns nasty).

Speaking at the Annual National Conference of Visitor Attractions (VAC) in London recently, chair Ken Robinson said the industry must grasp the opportunity and implement advance payments and memberships. Not doing so is holding us back and preventing us from deploying yield management and also from engaging properly with customers.

Memberships and advance payments involve operators taking full customer contact details and once we have these, a transformation can occur in our relationship: we know who our customers are and can properly engage with them.

Long ago, when the industry was part of the black economy, operators preferred to take cash, but those days are gone and it's time attractions got on board the 21st century way of doing things.

Liz Terry, editor, twitter: @elizterry

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PHOTO: GOOGLE GLASS

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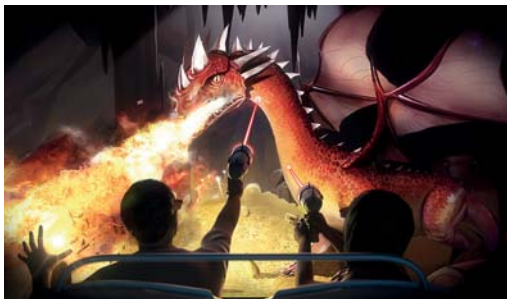
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Web gallery:

For suppliers of products and services in the worldwide attractions industry, turn to page 93

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Theme park

175-year-old theme park shuts down in Hungary

A 175-year-old theme park in Budapest, Hungary has been forced to close down due to the country's economic problems.

Vidampark closed on 30 September, with only the attractions that are considered to be of national heritage being saved from the scrap heap.

The park's rollercoaster, which was the longest wooden rollercoaster that is still operating in Europe, is one of the rides that will be saved.

In recent years, the park has fallen into disrepair, with the number of visitors dropping from a peak of 2.7 million in the 1970s to around 250,000 people annually.

Details: <http://lei.sr?w=xY7W>



Plans have been in the works since 2004

South Korea starts work on robot theme park

Work has started on a robot theme park in South Korea following a groundbreaking ceremony.

Construction was supposed to start in 2009, but plans were delayed and it seemed as though the park in Incheon would never become a reality.

That's changed, however, with a breaking of ground ceremony signifying the start of construction on the W670.4bn (£388.8m, US\$624.3m, €459.5m) development.

The 0.75sq km (0.29sq mile) attraction will have exhibitions and rides, in addition to a waterpark, shopping area, hotel and R&D centre.

Not only will the park function as an entertainment venue, but it will also be used to test new products and teach students with a post-grad robotics school and a robotics institute.

The project has been backed by both the central and local government, as well as private developers. The public interest facilities are scheduled to open in 2015, while the park's full opening will come in 2016.

Details: <http://lei.sr?a=a8z7o>

US\$104m theme park for Oman

Sayyid Fatik bin Fahr al Said companies (FBF) and the Arab Malaysia Development Company (AMDC) have signed an agreement to develop Oman's largest ever indoor theme park at a cost of OMR40m (US\$104m, €76m, £64.2m).

The 25,000sq ft (2,322sq m) Majarat Oman is expected to be completed by the first quarter of 2016 and will feature a waterpark, entertainment facilities, retail facilities, restaurants, a cinema, conference facilities and a selection of rides.

The park will comprise four zones including Alien Colony, Fuzzie's World, Space Station and Neptune Waterpark. Expected to create 300 jobs, the new



The park will comprise of four zones, which include Alien Colony

attraction will also have live performances and shows.

"We're aiming to attract 350,000 domestic visitors and 150,000 foreign visitors annually," said Syed Asad Ali, managing partner of AMDC.

The Australia-based Sanderson group is the design and build consultant for the project, which has already been given approval by Oman's Ministry of Tourism.

Details: <http://lei.sr?a=f6tsi>

Jackie Chan theme park planned for Beijing

A theme park dedicated to Chinese superstar Jackie Chan is to be built in Beijing, China, according to reports by Chinese state media.

The Jackie Chan World Park, or JC World, also confirmed by Chan on his Weibo feed, is being built in the suburb of Yizhuang, on former hunting ground once used by the Chinese elite.

Though no opening date has been announced, it is thought the park will include five themed areas and different exhibition centres displaying items collected by the Hong Kong-born actor, including four antique Chinese wooden buildings.

The park is expected to be free for visitors, with the exception of a few ticketed attractions that will be charged for.

Further south in Shanghai, the world's first Jackie Chan museum is set to open later this year along the city's Suzhou River. The 10,000sq m (107,639 sq ft) facility



Jackie Chan's cultural icon status will be celebrated with a park in China

will house a gallery of film costumes, as well as other artefacts documenting Chan's decade-spanning film career. The museum will also feature a four-storey Italian restaurant and movie studio.

The Jackie Chan Museum is part of the Chinese government's wider plans to redevelop Shanghai's Suzhou riverbank area, as China's most populous city aims to

increase its status as a leading tourism destination in the country.

China's attractions industry is growing rapidly, with Disney opening a resort in Shanghai in 2015 and Steven Spielberg's Dreamworks planning a resort titled the Dream Centre also for Shanghai, which will feature cinemas, shops, restaurants and hotels.

Details: <http://lei.sr?a=x8c5N>

Conference report



Adam Bezark challenged all speakers to begin their presentation with their industry initiation story



The NextGen bonus session included student videos and SCAD's Collaborative Learning Center program



Mk Haley told students about her career with Disney Research, which started in 1994



'What's next?' was this year's theme, with a look at the future of developments and creative professionals. Lynn Willrich reports on the findings

SATE 2013, the Themed Entertainment Association's (TEA) annual conference, took place on the 2nd and 3rd October at Savannah College of Art & Design (SCAD), Georgia, USA (see top team feature in AM Q3 13).

This year's theme 'What's Next?' addressed where different areas of the industry are heading in development terms and who will take over from the current generation – hence the venue choice and the invitation for creative students to take part, which they did, with abounding enthusiasm.

Each year the conference is split into four subjects: storytelling; architecture; technology; and experience, giving the acronym SATE.

STORYTELLING

Adam Bezark (The Bezark Company) hosted the storytelling segment, asking: "Where are stories today and where are they going?" He made the point that everyone has a story and went on to ask every speaker to tell their own story, which they did. Delegates heard amusing anecdotes and insights into how many in the industry began their passion for their work. This included an amusing story from TEA President, Christine Kerr of BaAM Productions: "I initially got a job in the Canada's Wonderland costume department because I was the only one tall enough to reach the shelves. Finally they asked if I could sew, and my response was 'Yes – isn't that why you hired me?'"



Keynote speaker Don Marinelli gave a speech called The Reading, 'Riting and 'Rithmetic of the 21st century

Bezark went on to say: "Immersion draws us in; animation makes us believe; but stories are what makes us remember." He introduced four inspiring speakers: Marc Caro from the Chicago Tribune who spoke about how storytelling in print is moving to the internet, or is it...?; Chris Huntley, vice president of Write Brothers Inc, gave a psychological explanation of why stories are important and why they actually work; Asa Kalama, from the R&D department of Disney, explained how Disney tells stories using technology, tools and techniques; and David Misch thought we should get more comedy into themed entertainment.

KEYNOTE SPEECH

Keynote speaker Don Marinelli, founder of Carnegie Mellon University's Entertainment Technology Centre, gave an insight into his opinion of what's next. In his speech, called 'SATE: the Reading, 'Riting and 'Rithmetic of the 21st Century', he said: "This 21st century digital generation is morphing into a different species of humanity. And I like what I see."

Al Cross, PGAV Destinations, chaired the Architecture session, while M K Haley from Disney Research hosted the Technology segment. This included a practical session by Paul Kent and Chris Conte of Electrosonic, who showed the differences created by using a range of lighting types on the same object.

The Experience session was hosted by Phil Hettrema, of The Hettrema Group, with speakers Liz Gazzano and Roger Gould from Pixar. They gave an enjoyable insight into the making of *Cars*, the Disney Pixar movie, and *Cars Land* in Disney California Adventure Park.

For me, SATE's best element was the participation of the SCAD students. Their enthusiasm lent a unique perspective to the conference and gave us the confidence that the future of the industry's in safe hands. ●

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Themes and trends at waterparks

ALEATHA EZRA

The World Waterpark Association receives calls on a weekly basis from media contacts, most of whom are looking for information on industry trends and what makes waterparks so appealing.

The answer to the latter is: people visit waterparks because they're fun. The rides are cool and people love the feeling of rushing down a slide or bobbing up and down on a wave.

Yet, when we dive a little deeper, we can see that some trends are having more impact on the success of



Ride manufacturers have grown adept at combining several great experiences into a single ride

waterparks on a global scale. Corry Cloward, president of Cloward H2O, recently spoke about the impact that ride innovations, such as water coasters, wall rides and hybrids, have had on the marketplace. "Ride manufacturers have grown adept at combining several great experiences into a single ride. And guests love them," he said.

In addition to pushing the overall thrill element, manufacturers have also integrated "skill development activities" into their designs. According to Cloward: "These activities increase the duration of stay in a park, as guests seek to improve their times or performance. And longer stays translate to increased in-park sales." Finally, Cloward considered the trend toward energy and water conservation and how both can broaden the appeal of waterparks to the mass market and deliver dollars to the bottom line.

Aleatha Ezra, director of park member development, World Waterpark Association

Legoland waterpark in Malaysia

Legoland has opened its first waterpark in Asia, with the Malaysian attraction becoming the largest Legoland Waterpark in the world.

The opening of the park, which includes more than 20 unique water-based rides, is part of the transformation of Legoland Malaysia into a resort, with the opening of a new hotel next year set to make the attraction the largest family destination resort in South East Asia.

Located in the rapidly developing Iskandar region, the park also features 70 Lego models and is the only Legoland park in the world where visitors can enjoy the waterpark on its own as a stand-alone attraction, or in combination with the original Legoland Malaysia theme park.

Some of the park's most exciting concepts include the Build-A-Raft River attraction where children can customise their own raft with Lego soft



The waterpark contains more than 20 unique water-based rides

bricks before floating down a lazy river, while the Joker Soaker is a fun, interactive play structure, which allows children to aim water cannons at each other.

"It's incredibly exciting to be celebrating the expansion of Legoland Malaysia and the opening of the waterpark is a major milestone in the transformation of Legoland into a resort – the perfect location for a family short break," said

John Jakobsen, managing director of Legoland Parks for Merlin Entertainments.

"We're also very pleased to see that the opening of Legoland Malaysia has been a catalyst to encourage other high quality leisure businesses to the area and share our partners' exciting vision for southern Malaysia to become a hub for international entertainment.

Details: <http://lei.sr?a=s6L6C>

Male-only waterpark opens in Afghanistan

Residents in the battle-hardened capital of Afghanistan have been treated with a new US\$5m (£3.6m, £3m) waterpark in the heart of Kabul.

The new facility, which includes six water slides, a wave pool, whirlpool, sauna and restaurant is a male-only facility, with the exception of young girls under the age of 10.

In 2014, foreign combat troops are set to leave the war-torn country, leaving some nervous about future ventures. At present, armed guards will search visitors upon entry to the waterpark.

"When we decided to build this place, we knew that the troops would be leaving in 2014," said one of the park's managers, Mahmud Najafi speaking to Reuters.

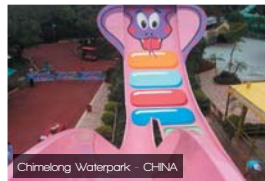


The park has opened despite an unsure future when troops leave in 2014

"For us 2014, doesn't mean anything," he went on to say. "We have provided jobs for 70 people and we have provided a good environment for our young generation. My message to other Afghan

businesses is that if we don't invest because of concerns about 2014, we will remain backward. Every Afghan has to work individually to promote this country."

Details: <http://lei.sr?a=Zza5S>



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Attractions

Anticipation builds for Avatarland to open in 2017

Two years after announcing the film, *Avatar*, will be brought to life at Disney's Animal Kingdom. Lightstorm Entertainment, the creators of the film and Walt Disney Imagineering are working on new ways of taking immersive environments and interactivity to the next level.

Slated to open in 2017, guests will be able to wander through the land of floating mountains, enter the bioluminescent rainforests and fly across Pandora on the wings of creatures.

Walt Disney Imagineering's lead designer, Joe Rohde, promises the attraction will have the lyrical beauty of the film and that it will be a "transformational experience that you will remember for the rest of your life".

"A world with this imaginative is impossible to do unless you think up new technology, new art, new styles and new materials," he says.

Details: <http://lei.sr?a=P9vg6>



Fans will be able to sing with Freddie Mercury

4D experience lets you play with music icons

A new 40,000sq ft (3,716sq m) museum in London, UK, will offer visitors the chance to perform on stage with some of the biggest musical icons, living and dead, including Freddie Mercury, John Lennon, Jimi Hendrix and Morrissey.

The Music Hall of Fame – set to open next year in Camden's Stables Market – will have a 4D attraction featuring the same technology used at California's Coachella Festival in 2012, which saw the holographic reincarnation of rapper Tupac Shakur, who performed on-stage with Snoop Dogg and Dr Dre. Using hologram technology, the illusion will be created by beaming high definition video images into a mirrored glass box to create a 3D space and give the appearance of a 3D object or person.

The new attraction will also feature a walk of fame running from Mornington Crescent to Chalk Farm.

Details: <http://lei.sr?a=K5Zod>

Merlin confirms IPO for London

Merlin Entertainments, the second largest visitor attraction operator in the world, has announced that it will float 20 per cent of the company on the London Stock Exchange.

The company, whose operations include Alton Towers theme park in the UK and the Madame Tussauds and Legoland brands, is currently inviting retail investors to take part in the listing.

The primary offering will be around £200m (£234m, US\$324m) for at least 20 per cent of its shares, to be used to reduce net debt – which stood just under £1.3bn (£1.5bn, US\$2.1bn) at end of last year – and pay for costs.

Around 10-15 per cent of the offering is due to go to smaller shareholders, with a minimum application size of £1,000 (US\$1,620, €1,172).

The team at Danish investment company Kirkbi, which



Chief executive Nick Varney is confident about the company's future

owns 75 per cent of the Lego group and its trademarks, said that they intend to remain a long-term strategic investor in the company.

Nick Varney, chief executive of Merlin, said: "Merlin Entertainments comes to the market with a consistent record of strong growth in both revenues and

profits and bright prospects for the future.

"We have successfully followed a clear and proven strategy to build a high-growth international family entertainment business, built on strong brands and a portfolio of attractions balanced by geographies."

Details: <http://lei.sr?a=z7V3q>

Co-founders of Drayton Manor pass away

The co-founders of Drayton Manor Theme Park, Midlands, UK, have died, just weeks apart from each other.

George Bryan died peacefully at home on 20 September aged 92. His wife Vera passed away aged 96 on 16 October at Good Hope Hospital in Sutton Coldfield.

Vera and George Bryan first arrived at the site near Tamworth, Staffordshire, UK on 16th October 1949.

George bought the 80 acre site for £12,000 (US\$19,000, €14,000) and the attraction first opened for business a year later in 1950.

For decades, the couple worked side by side "transforming the small attraction into a major national tourism destination".

In 2004, George was awarded the OBE for hospital services, for his work as the chairman of a local



Co-founders of Drayton Manor Theme Park, George and Vera Bryan

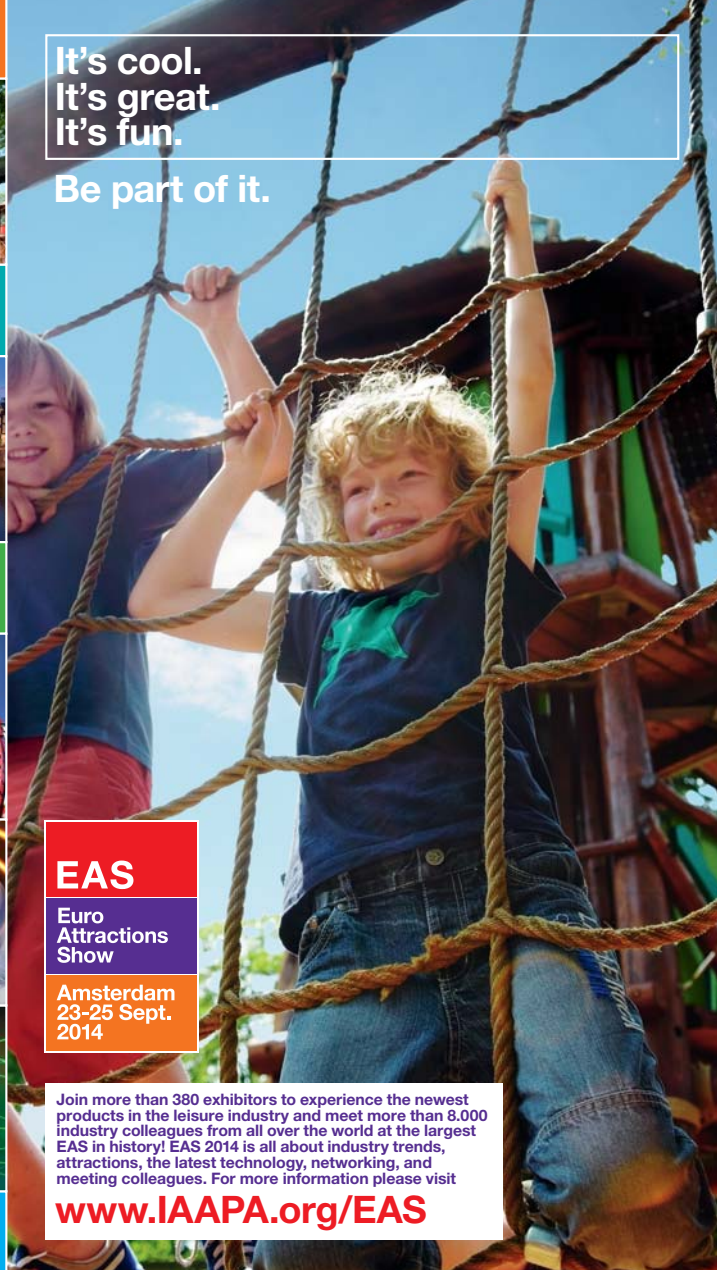
Community Health Council and services to tourism. The spokesperson said that "George Bryan inspired all people he met, with his passion and humility".

Vera, a mother-of-three, grandmother and great-grandmother, was hailed as an "inspiration to all," with a

spokesperson for the theme park saying "she dedicated her life to Drayton Manor and her family".

George and Vera's son, Colin, is now managing director of Drayton Manor, which has grown over the years to cover more than 280 acres.

Details: <http://lei.sr?a=y6K2s>



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Digesting EU food issues in science centres

MARIA ZOLONTONOSA

Over the past decade, most EU member states have identified food and health as key priorities. This is because more people are becoming obese, and diet-related chronic illnesses, such as diabetes and cardiovascular diseases, are also growing. But, despite major public awareness efforts, citizens still aren't making the right choices when it comes to food. Enter the Inprofood project – an initiative funded by the EU, which is bringing research, industry and civil society together to figure out how to solve Europe's food-related health challenges.

Science centres and museums are an important part of Inprofood because they're able to reach audiences in ways that academe and industry can't – for example, through direct conversation.

Ecsite, the European network of science centres and museums, has created a PlayDecide discussion game meant for visitors between the ages of 14 and 21 to talk about tough food issues like eating disorders, food waste, sustainable eating and personal accountability for food choices. The over-arching question posed by the game is who is responsible for rising obesity in Europe and who must correct the problem: government or consumer?

Seventeen science centres in 11 countries evenly spread throughout Europe (including Israel) are hosting the game, which has been translated into local languages. Results and ideas coming from these games will be compiled and submitted to the EU when Inprofood finishes in November 2014. Interestingly, many science centres who answered Ecsite's call to run these discussion games indicated that food and diet issues are already a growing concern in their exhibitions.

For more information and project findings see www.inprofood.eu.

Maria Zolotonosa,
project manager, Ecsite



India to build 18 science centres

India's National Council for Science Museums (NCSM) has announced plans for 18 more science centres, taking the total in the country to 66.

Work on five centres has already started, with an expected completion date of 2017, while the remaining centres will be built between 2017 and 2021.

The first five centres to be completed includes complexes at Kerala, Karnataka, Uttarakhand, Tripura and Andhra Pradesh.

The others which will be developments to be built between 2017-2021 includes locations in Karnataka, Pradesh, Rajasthan, Chandigarh, Dadar Nagar Haveli, Odisha, Jammu, Kashmir, Dharasalama and Haryana.



The National Science Centre in New Delhi, India

In addition, Guwahati will have a science city and Kumaon will receive a centre focusing on biodiversity and climate change.

The NCSM will also be launching an innovation hub into five major centres of

India, where the ideas of students and researchers can be converted into products and process. The hubs are aimed at getting students and youth directly involved with innovation at a young age.

Details: <http://lei.sr7a-xj9z4E>

Czech Republic to unveil 3D planetarium

Work on the Czech Republic's first 3D planetarium has been completed at the Techmania Science Centre in Plzen, with an opening date of 4 November.

The planetarium, which cost CZK150m (£4.95m, US\$7.98m, €5.8m) to build includes two large domes for education, a laboratory, workshops and clubs, and is housed inside the heritage-listed ASAP Skoda cafeteria, which was built in 1917.

"We have rebuilt a dilapidated building into a planetarium where visitors can have the opportunity to learn about physics and astronomy in a fun way," said Jiri Vlasak of Techmania.



The building underwent a major transformation and now houses two domes

The 3D planetarium will offer 2D and 3D screenings of geographic and astronomic films. NASA-approved films will be screened inside the

14-metre dome. An interactive display will also be included with 27 exhibits to educate on cosmic phenomena.

Details: <http://lei.sr7a-x6K5n>

Two new major science museums for China

The Ontario Science Centre and Science North have formerly announced a partnership with two major science museums in China. The partnership sees an

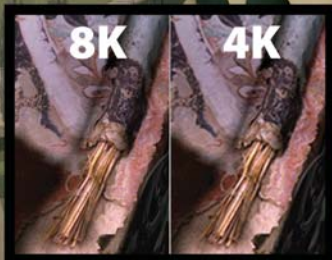
affiliation confirmed in the formation of the Ontario Science Centre, Science North and the China Science and Technology Museum, located in Chaoyang District, Beijing

and also in the establishment of the Ontario Science Centre, Science North and the Shanghai Science and Technology Museum, located in Pudong New District.

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Mogao Caves Visitor Center, Dunhuang, China

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AZA Support Conservation Mission

JENNIFER FIELDS

AZA-accredited zoos and aquariums, known for their role in animal conservation, also strive to conserve natural resources utilised in their business operations.

These actions include reductions in water and energy use, waste reduction and recycling and the green energy installations. In fact, green practices provide a direct benefit to animals and habitat, lessening the threats facing wildlife today, including pollution, invasive species and climate change.

AZA-accredited zoos and aquariums are working hard to protect wildlife and habitats for future generations

To help the 223 AZA-accredited facilities develop and implement sustainable practices that support the missions of their facilities, the Association of Zoos and Aquariums (AZA) published *The Zoo & Aquarium Green Guide: Suggestions for Beginning or Expanding a Sustainability Program* in 2011.

This autumn, this popular resource has been expanded into a two-volume set, which can be viewed at www.aza.org/sustainable-practices/.

Together, these AZA Green Guides will help zoos and aquarium publicly demonstrate their commitment to resource conservation and engage guests in personal action to be a part of the solution for wildlife and resource conservation.

AZA-accredited zoos and aquariums continue to work hard to protect wildlife and wild habitat, both for the animals and the environment and for future generations to enjoy.

Jennifer Fields, communications coordinator, AZA

AZA announces award winners

The Zoos and Aquariums Association (AZA) has announced its honours and award winners for conservation, innovation and design feats, at its yearly conference in Kansas City, US.

The Saint Louis Zoo's Sea Lion Sound exhibition, designed by PGAV Destinations, won the award of Significant Achievement in Exhibit Design.

This is the second time the zoo has been handed the award, having won it back in the 1970s for its Big Cat Country exhibition.

Sea Lion Sound is a Pacific Northwest-inspired exhibit that showcases the first 35ft (11m)-long fin-footed marine mammal tunnel in North America. It allows guests to walk beneath and through the animals' habitat, as they swim and play around them.



This is the second time the Saint Louis Zoo has won the design award

Other winners included the Knoxville Zoological Gardens for its Madagascar Spider Tortoise effort, which was awarded the Edward H. Bean Award, with the gardens significantly contributing to the conservation of the tortoise species.

The Chicago Zoological Society was awarded top

honours in the Angela Peterson Excellence in Diversity Award for its Cultivating Conservation Communities.

The Wildlife Conservation Society/Bronx Zoo and Cabrillo Marine Aquarium were both recognised in the education section.

Details: <http://lei.s7a-q8p4d>

Work starts on £30m Chester Zoo project

Construction work has begun on the £30m (US\$48.4m, €35.1m) Islands project at Chester Zoo in Cheshire following a launch ceremony.

Set to open in 2015, Islands will fill a previously unoccupied area of the zoo and will feature flora and fauna from the Philippines, Papua New Guinea, Bali, Sumatra, Sumba and Sulawesi.

There will also be an Indonesian jungle house, one of the largest indoor zoo exhibits in the UK, which will house orangutans, macaques and the sunda gavia crocodile – an endangered species with only 2,500 mature individuals in existence.

The jungle house, which will be known as Monsoon Forest, will feature raised walkways, underwater viewings and free flight areas in a sub-tropical climate.

Engineering company



The jungle house will be one of the largest indoor zoo exhibits in the UK

Laing O'Rourke was awarded the build following a nationwide tender process.

Chester Zoo director general Mark Pilgrim said that the new jungle house would be "the largest of its kind in the UK", while also stating that the project

would "transform the zoo so it can become one of the biggest in Europe".

To mark the start of construction work, the Duke of Westminster, president of the zoo, was in attendance for the ground breaking ceremony. Details: <http://lei.s7a-g4z7K>

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Museum & Gallery



The Sackler has 900m of exhibition space

Serpentine Sackler Gallery by Zaha Hadid Architects

The Serpentine Sackler Gallery, a £14.5m arts and gallery space designed by Zaha Hadid Architects, has opened in London.

The Sackler is Hadid's first permanent structure to be created in central London and features 900m (3,000ft) of exhibition space, a restaurant and room for socialising. The building is seven minutes' walk from the main Serpentine Gallery.

Located in Kensington Gardens – in an 1805 gunpowder store formerly known as The Magazine – the gallery honours Dr Mortimer and Dame Theresa Sackler, whose foundation made the project possible through the largest single gift received by the Serpentine in its 43 years of existence.

The project has been ongoing since 2010, when the Serpentine won the tender from The Royal Parks to bring the Grade II listed building into public use for the first time.

Hadid is also responsible for the New National Stadium of Japan that will be the centre of the 2020 Olympics in Tokyo.

Details: <http://lei.sr7a=j6kiZ>

Ellis Island museum reopens

Ellis Island Immigration Museum reopened its doors to the public on 28 October 2013 for the first time since Hurricane Sandy submerged the island last year.

The museum is expected to remain a work in progress until the spring of 2014. However, visitors have been welcomed back to once again explore the halls of the immigration centre where at least 12 million people began their lives in America.

Some of the exhibitions open include the Great Hall, where immigrants were inspected, as well as Journeys: Peopling of America 1550-1890, which documents the state of immigration in America prior to the operation of the Ellis Island Immigration Centre.

Despite the museum being open to the public, repair works will still continue on an entirely new electrical system and an air conditioning system for climate control to help preserve the museum's documents and artefacts.

When the hurricane hit last year, the whole island was submerged under water, with the storm surge destroying the



After last year's hurricane, Ellis Island was submerged under water

museum's integral electrical, communications, heating and cooling systems.

The reintroduction of the museum comes after the successful reopening of the Statue of Liberty on 4 July, following work from both the National Park Service, The Statue of Liberty – Ellis Island Foundation and Save Ellis Island, with all having strived to enhance and improve operations in the area.

"We're delighted to be able to share Ellis Island's uniquely American story with the world once more," said Superintendent David Luchsinger.

"I can think of no better way to celebrate Lady Liberty's 127th birthday than to welcome visitors back to the place where those 'huddled masses yearning to breathe free' first came to our shores." Ellis Island was the former federal immigration processing station in the US, which processed more than 12 million immigrants between 1892 and 1954. In 1965, a presidential proclamation added the island to the National Park Service as part of the Statue of Liberty National Monument. (See p40 for more details on the recovery work.)

Details: <http://lei.sr7a=ksj8N>

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Less 'at risk' listed buildings in England, says survey

The annual 'at-risk' survey by English Heritage has found 7,500 listed buildings or sites deemed to be imperilled by neglect or decay – a decrease of 131 from the previous year.

The heritage body also announced plans to recruit an army of volunteers to help survey England's 345,000 Grade II-listed buildings and prevent damage being done to buildings every year.

The first surveys are expected to take place this autumn, with volunteers being offered training via English heritage and other organisations.

Meanwhile, archaeologists have warned that budget cuts to the heritage sector in the UK could leave future generations facing a lost legacy of heritage – abandoned to "short termism" and "financial expediency".

Details: <http://lei.sr7a=A7h2L>

World Monuments Watch 2014

Venice, Italy and the entire country of Syria are among the cultural heritage sites at risk from the forces of nature and the impact of social, political, and economic change.

The World Monuments Fund (WMF) have announced the 2014 World Monuments Watch, which features 67 sites in 41 countries and territories dating from prehistory to the twentieth century.

It includes: the famous – Venice, Italy; the little-known – Pokfulam Village, Hong Kong (SAR), China; the urban – Yangon Historic Center, Myanmar; and the remote – Gran Pajatén, in Peru; the ancient – Ancient Irrigated Terraces of Battir, in the Occupied Palestinian Territories; and the modern – the Jefferson National Expansion Memorial, in St. Louis, Missouri.

The 2014 list reflects a number of distinct preservation challenges, including conflict and catastrophe, lack of resources, development pressures (urban, rural, tourism), and loss of cultural traditions. The New York-based group



Venice, Italy is one of the sites listed as 'at risk' in the 2014 Watch List

has issued its watch list every two years since its launch back in 1996.

The list was assembled by a panel of experts in archeology, architecture, art history and preservation.

The WMF has outlined opportunities for local communities to work together with the larger preservation community, government organisations and corporate sponsors to help ensure their future.

WMF president Bonnie Burnham said: "These sites

– and countless others like them – recount our human history and highlight our achievements.

"It takes vigilance to keep them active in the world; yet it is often the case that the very places that provide rich character and texture to our lives need more assistance and attention than they are given."

Since 1996, WMF has contributed US\$90m (€65m, £55.5m), while US\$200m (€145m, £123m) has been allocated by other entities.

Details: <http://lei.sr7a=H4t8M>



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JOE SCHOTT

With €440m to invest over the next five years, the future plans for Disneyland Paris couldn't be more exciting, as COO Joe Schott reveals

Kathleen Whyman, managing editor, Attractions Management

Joe Schott is a happy man – with just cause. As chief operating officer of Disneyland Paris, with responsibility for the quality of the guest experience, he was very involved with last year's 20th anniversary celebrations. The success of these saw a record 16 million visitors to the theme parks and the new evening show *Disney Dreams!* won several awards, including IAAPA's Brass Ring. It has now become one of the highest guest rated shows at Disneyland Paris, with a 93 per cent satisfaction rating.

Despite this, he and the rest of the management team aren't being complacent. Having had a tricky start when the park opened in 1992, they've learned that adapting, evolving and investing is the way forward. And with €440m (US\$606m, £375.5m) set aside for maintenance and development over the next five years, there's no shortage of plans.

First up is the ride Ratatouille, which opens next year. This is the park's largest expression of that all important trend – an interactive, immersive experience.



Schott's Disney career began in 1981

Guests will be taken into the world of the Oscar-winning Disney/Pixar movie *Ratatouille*, which tells the tale of Remy – a talented Parisian rat who dreams of becoming a renowned French chef. Disney storytelling and state-of-the-art technology will come together in this romantic, larger-than-life, experience.

As part of the group's long-term commitment to investing in high-quality guest experiences, it's projects such as *Ratatouille* that will bring work and revenue to the area, which is the plan that they signed up to, back in the 1980s.

The original agreed upon structure between the French government and Walt Disney Company's development team was not just to bring Disney to Paris, but to develop a world-renowned centre for tourism to create a strong vector for the social and economic development of the Eastern Paris Region. "That has, without a doubt, been the case," confirms Schott.

"The city centre that's right next to Disneyland Paris continues to grow and has one of the top visited malls in France – if not in Europe. And 55,000 people are in work thanks to direct, indirect and induced jobs throughout France. This amazing, economic boost has happened because of our resort."

This public-private partnership will lead Disneyland Paris, and its group Euro Disney, to continue development on its territory, with projects such as Villages



(Above left) meet and greet with Mickey Mouse; (right) one of Disney's most popular princesses, Rapunzel, with a young visitor



Last year's 20th anniversary celebrations saw a record 16 million people visit Disneyland Paris

"55,000 PEOPLE ARE IN WORK THANKS TO DIRECT, INDIRECT AND INDUCED JOBS. THIS AMAZING ECONOMIC BOOST HAPPENED BECAUSE OF OUR RESORT"

Nature. "It's a joint-venture with Pierre et Vacances, an independent French company [that owns Center Parcs in Europe]. We'll start construction in the next year or so," says Schott. "It's going to be an amazing experience based on the Center Parcs format, but in a very Disney way."

FILM EQUITY

Smaller, but still important, plans for the park involve taking advantage of Disney's film base. "The industry's becoming very adept at getting equity that matters to the guest," says Schott. "We already have equity, which continues to grow stronger with the acquisition of Marvel and Lucas Films, so have to build on those, first in entertainment, then long-term in attraction experiences."

As well as being on top of the light-hearted side of the business, such as the fact that Rapunzel's dress outsells all others, Schott's also involved in serious elements, including safety. The European Attractions Show was held in Paris in September and he took advantage of its location and his role as part of the European Advisory Committee for IAAPA to host a safety conference.

One example of what Disney's doing is moving from paper documents to handheld devices when carrying out preventative maintenance steps. This electronically logs the time, place and date a check was performed. As well as providing a detailed tracking of what's being done to meet ride legislation requirements, it also enables them to predict issues before they become problems. A campaign called Disney's Wild about Safety gives children advice about how they can keep themselves safe.

Schott's passionate about safety and works with SNELAC and IAAPA to help strengthen standards. "We're heavily supportive from a Disney standpoint, but try not to be dominant. We want to be a collaborative member of the association, rather than the big dog," he says.

PROGRESS

Disney's reluctance to dominate is echoed in Schott's entire demeanour. He's modest about his achievements, playing down his 32-year progress within the company, which started in 1981 with a weekend job at Walt Disney World Resort while he was at High School in ▶

ABOUT JOE SCHOTT

What are your hobbies?

I enjoy playing golf. I'd love to play at St Andrews in Scotland. Also, spending time with my sons is really important because I know that'll change when they transition out.

What's your favourite food?

Wherever I go, I try to find Mexican.

What drives you?

The pursuit of excellence.

What's your favourite film?

I enjoy animation and have a deep affinity for old animated films from the Disney library and out of Japan.

How would you describe yourself?

I want to be known as having brought out the talent in those around me, rather than contributing individually.

How would others describe you?

I use humour to get results and make sure people aren't always so serious. There's probably no other business in the world where you can have an hour-long conversation about whether Buzz Lightyear would walk or fly in a particular situation. You have to laugh about that.



Schott says Disney's adaptation in France has made it the top European theme park

► Orlando. "My progression isn't unique to me, it happens regularly throughout our organisation. At Disneyland Paris, 80 per cent of the managers and senior managers have been promoted from within the company," he says.

Schott's own promotions have seen him in the roles of vice president and executive managing director of Walt Disney Attractions Japan, where he oversaw the 25th anniversary celebrations, and director of park operations at Walt Disney World. He was also involved in the openings of Disney's Animal Kingdom, Disney's California Adventure and Disneyland Paris. In 1992 he was opening task force leader, responsible for Main Street attractions. When he returned in 2009, it was as head of operations.

CASTING ROLE

This job includes making sure that of the 15,000 cast members (Disney's name for its staff), those who work with guests are delivering. "My role is focused on the quality of the experience and making sure that for the 16 million guests we had last year, we maintain the quality of the organisation, the operation and the management of the resort. This includes seven hotels, two theme parks and the Disney Village," he says.

"Fifty-two per cent of our guests are from Paris, the rest from other countries in Europe. So you can't focus on one group or one language in the shows and operation. We have to do things much more visually and put a lot of thought

"YOU CAN'T BELIEVE YOU HAVE THE ANSWER. YOU HAVE TO GET FEEDBACK FROM THE PEOPLE WHO DECIDE IF YOUR BUSINESS IS SUCCESSFUL – YOUR GUESTS"

into how that's going to make individuals feel. We offer our guide maps in seven languages and many of our cast speak several languages. Even the breakfast buffet can't be traditionally French. For example, it has to have bacon for the Brits. That organisation is quite complex."

Catering to such a broad audience, while ensuring the French accepted the park as their own, was the initial challenge. The Florida Resort couldn't just be picked up and deposited in Paris, as it had been in Tokyo, which the team learned the hard way.

"We didn't open to a warm reception in France," recalls Schott. "Many of the things we had to change were based on culture relevancy within the location. For example, the decision not to have alcohol in the park followed a US paradigm about conduct within the park. However, in France, wine as part of a meal is very common, so we developed our offer."

"That's a good example of recognising when changing direction has to be met with the right kind of implementation or your guests aren't going to be happy – and they're a vocal crowd."

Getting to know what works in different countries and cultures is part of the appeal for Schott. "It's taught me what's

unique about each place from an adaptation standpoint," he says. "You can't go into a situation believing you have the answer. You have to get feedback from the people who will decide if your business is successful – your guests and cast."

Living in France has also shown Schott the importance of a healthy life / work balance. "In the US, we live our lives around the office," he says. "Japan was even more extreme – it was six days a week. That's not how the French look at the world, which gives you an appreciation of the quality of life and taking time to enjoy it and makes you a more thoughtful and balanced team leader."

"I don't spend all my time outside the office looking for new ideas," he points out. "But, instead of working 80 hours a week, it's more like 60 hours now, including visits in the parks regularly, which is a much healthier approach for me."

Schott isn't the only advert for being healthier – the park is too. "Today, 21 years after opening, Disneyland Paris is a powerhouse," he says proudly. "We're the number one tourist destination in Europe because our adaptation has made us relevant to all those different audiences."

"It's a European theme park now, not an American theme park." ●



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WORLD CLASS COLLECTIONS

Pop idols, science, nature and culture are all celebrated in a range of museums that have opened around the world this year

Helen Patenall, journalist



ABBA THE MUSEUM SWEDEN

The new museum is home to hundreds of Abba artefacts

Abba The Museum – the first visitor attraction to be dedicated entirely to the Swedish pop band – opened at Djurgården in Stockholm in May.

Backed by Abba founder Björn Ulvæus, the museum offers visitors an interactive journey through the band's history and features hundreds of Abba artefacts.

The museum journey kicks off with a film showing Abba's history by Swedish film and music video director Jonas Åkerlund in a 180-degree cinema, which leads on to Gamleby Folkets Park –

symbolising the start of the members' careers in the 1960s.

The exhibition moves on to Brighton in 1974, the song writing cottage on the island of Viggso, Stig Anderson's office, Owe Sandström's tailor studio, arenas around the world, Björn and Agnetha's kitchen and the legendary Polar studio.

During the museum journey, visitors can experience what it would be like to be the fifth member of Abba using interactive exhibitions. Guests can also see what they would look like dressed in

one of Abba's legendary stage costumes, singing at the famous Polar Studio and entering the stage with the band.

The four band members – Agnetha, Benny, Björn and Frida – lead visitors through the facility by telling their own personal Abba stories on an audioguide, which was developed in collaboration with Catherine Johnson, who wrote *Mamma Mia!* The exhibition curator is the band's ex-stylist Ingmarie Halling.

www.abbatheuseum.com



Visitors are greeted by a spectacular entrance hall and an Asian pavilion is also part of the new additions

RIJKSMUSEUM

HOLLAND

Amsterdam's Rijksmuseum reopened in April after a 10-year refurbishment. Now 80 galleries and 8,000 objects tell the story of 800 years of Dutch history.

The much vaunted facelift was masterminded by Seville architect Cruz y Ortiz and the galleries were designed by French architect Jean-Michel Wilmotte, who worked on the Louvre.

The renovation is a combination of 19th century grandeur with modern design. The original architecture was fully reconstructed in a number of key spaces.

Spanning four floors, Rijksmuseum recounts Dutch history from the Middle Ages to the present day. Artists featured include Rembrandt and Frans Hals.

A spectacular entrance hall and an Asian pavilion are among the new additions and many new artefacts are now on show, including art, photos, jewellery, fashion and silver.

More than 75,000 tickets were booked online in advance of the official opening ceremony, conducted by Queen Beatrix of the Netherlands in one of her last public appearances before her abdication.

www.rijksmuseum.nl



MUSEUMS

NATURAL HISTORY MUSEUM OF LOS ANGELES USA

The first stage of a US\$135m (€103.7m, £88.4m) overhaul of the Natural History Museum (NHM), Los Angeles, was completed in June.

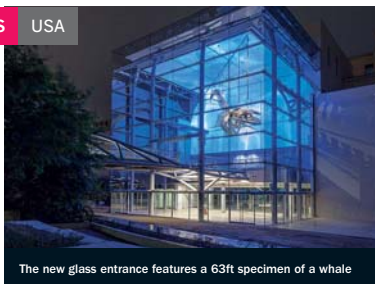
Renovation and restoration of the original 1913 Beaux Arts building located in Exposition Park near downtown LA has cost US\$91m (€70m, £60m) to date.

NHM now features 3.5-acre Nature Gardens displaying outdoor exhibits; the Nature Lab where visitors can participate in science activities and learn more about the local southern California wildlife; and the Otis Booth Pavilion – a new glass entrance and public gathering place at

the centre of the museum, which features a 63ft (19.2m) specimen of a whale.

New permanent exhibitions include the Age of Mammals and the Dinosaur Hall, as well as the 1,300sq m (14,000sq ft) Becoming Los Angeles, which tells the stories of cultural and ecological shifts in the development of the city and surrounding region.

In December, Travelling the Silk Road: Ancient Pathway to the Modern World – the first exhibit in the renovated galleries for temporary exhibitions – will take visitors on a caravan journey filled with crafts, spices, ideas and cultures from around the world.

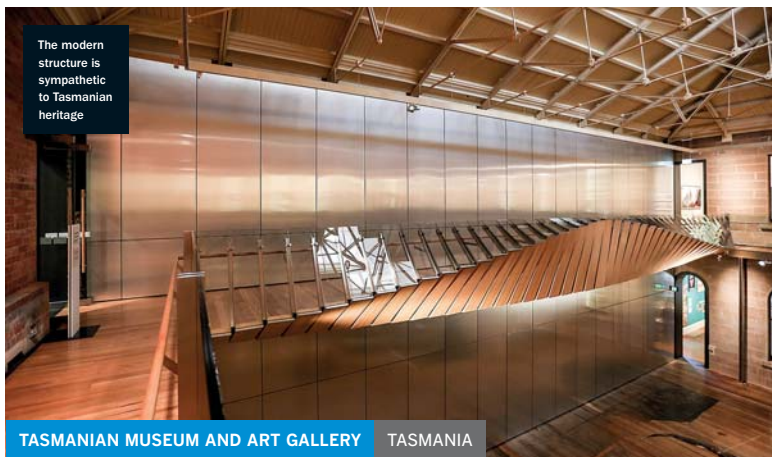


The new glass entrance features a 63ft specimen of a whale

Los Angeles-based CO Architects collaborated with NHM and engineering firm Cordell to design the museum's new gardens and remodel the galleries and Otis Booth Pavilion.

The NHM of Los Angeles was the city's first dedicated museum and has amassed more than 35 million objects since opening in 1913.

www.nhm.org



The modern structure is sympathetic to Tasmanian heritage

TASMANIAN MUSEUM AND ART GALLERY TASMANIA

The Tasmanian Museum and Art Gallery (TMAG) reopened in Hobart in March following a AUS\$30m (US\$27.9m, €21.4m, £18.25m) redevelopment project.

The new facility encompasses more than twice TMAG's previous display space, including a dedicated facility for travelling exhibitions that will enable TMAG to host international exhibitions of a standard never before seen in Tasmania. It also offers expanded public

programmes, education programmes and new spaces to showcase more of TMAG's state collection.

Architectural firm Francis-Jones Morehen Thorp focused on designing a contemporary structure sympathetic to the heritage and character of the site and waterfront setting.

The new visitor entrance highlights the historic Watergate as a central feature of the courtyard space, surrounded by

heritage buildings on one side and a new building housing a cafe and programme-delivery facility on the other. TMAG's treasured heritage buildings, including the Bond Store and Commissariat Store, are preserved beneath an enclosed courtyard. The outdoor civic space, previously hidden beneath the fringes of TMAG's historic site, is also now showcased.

www.tmag.tas.gov.au



The museum is covered in reflective polished steel

CHINA WOOD SCULPTURE MUSEUM CHINA

Beijing-based Mad Architects were behind the completed China Wood Sculpture Museum located in Harbin, China. The 200m (656ft)-long building is sheathed in metal and surrounded by a densely populated Chinese-style neighbourhood and residential complexes.

It was constructed with the aim of adding cultural and surreal essence to the surrounding urban context. The museum takes the form of a twisted strip of steel, punctuated with curved windows.

Mad describes the building as “bringing out an expression and abstraction of nature to an otherwise quotidian surrounding”. The architects blurred the boundaries between solid and liquid throughout the 13,000sq m (140,000sq ft) building to reference the local natural scenery and landscape.

The museum mainly houses local wood sculptures as well as paintings depicting the ice and snow of the regional scenery. In the context of the large-scale modern

urban setting, the China Wood Sculpture Museum aims to serve as a new interpretation of nature.

Designed in collaboration with The Architectural Design and Research Institute of Harbin Institute of Technology and Gehry Technologies, the building is covered in polished steel plates, mirroring the surroundings. The breaking and twisting motion of the skylights splits the surface and allows in light from the low-hanging sun of northern China.



The new MuCEM will also function as a cultural venue

MUSEUM OF EUROPEAN AND MEDITERRANEAN CIVILISATIONS FRANCE

After more than a decade of planning and preparation, the new Mediterranean civilisations museum (MuCEM) opened to the public in June.

The €191m (US\$248m, £162m) project is the world's first museum dedicated to Mediterranean civilisations and culture, and the first standalone French national museum outside of Paris.

Developed in partnership with the State, the city of Marseille, the General Council of Bouches-du-Rhône and the Provence-Alpes-Côte-d'Azur, the facility is split over three buildings, covering an area of 40,000sq m (430,556sq ft).

The J4, which covers 15,000sq m (161,458sq ft), is built on the former J4 port pier and was designed

by architect Rudy Ricciotti. The Fort-Saint-Jean, which also covers the same area, is located within the walls of a 12th century historic monument. The Centre for Conservations and Resources, which covers an area of 10,000sq m (107,639sq ft) is near the Saint-Charles railway station and was designed by architect Corinne Vezzoni.

The museum will also function as a cultural venue showcasing permanent and temporary exhibitions and events like films, concerts, shows and Mediterranean cooking workshops. The museum opened as part of Marseille's 2013 stint as the European capital of culture. ●

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A ROARING TRADE

The annual operating and capital outlays of zoos and aquariums accredited by the Association of Zoos and Aquariums (AZA) provides important economic benefits within local and state economies. It also generates important economic benefits nationally and internationally. These economic benefits include growing gross domestic product (GDP), creating wages for workers at the institutions and supporting jobs throughout the economy, as the initial spending by zoos and aquariums is re-spent and re-cycled.

SPECULATE TO ACCUMULATE

AZA-accredited zoos and aquariums in the US spent \$4.6bn (£3.4bn, £2.8bn) in 2012 alone. This spending was divided between annual operations expenditures

Zoos and aquariums generate important revenue for their local community and the entire country. Stephen S Fuller explains how

totalling \$3.5bn (£2.6bn, £2.2bn), plus an additional \$1.1bn (£809.2m, £683m) in capital improvements – an amount likely to vary by year. Not included in the analysis were the significant spending outlays of concessionaires that provide retail and food services on grounds at these facilities. Including the operating expenses of these businesses would

certainly grow the total economic impact of the zoos and aquariums even more.

Another source of important revenue in the community surrounding AZA-accredited zoos and aquariums is the off-site spending of zoo and aquarium guests that occurs in combination with their visits. While not all zoo and aquarium guests combine their visit with other commercial activities, research has shown that some do and that this spending can be significant, particularly when it stems from out-of-town tourists.

The number of people that visited AZA-accredited zoos and aquariums in 2012 was 181.9 million globally – 169.4 million of those people visited an accredited zoo or aquarium in the US. The visit-related, off-site spending of those zoo and aquarium visitors in the US has been estimated at \$2.4bn (£1.8bn, £1.5bn).



PHOTO: MORGAN MURPHY, SMITHSONIAN'S NATIONAL ZOO



PHOTO: MARK VAN BERGH, SMITHSONIAN'S NATIONAL ZOO

The benefits of zoos and aquariums include new income and jobs that contribute broadly to the economy

ECONOMIC BENEFITS

Therefore, the economic benefit of AZA-accredited zoos and aquariums and their visitors in 2012 can be highlighted as:

Direct expenditures by US AZA-accredited zoos and aquariums of \$4.6bn (€3.4bn, £2.8bn) contributed a total of \$13.2bn (€9.7bn, £8.2bn) to the United States' GDP. This is based on the use of a widely accepted aggregate output multiplier of 2.88;

Direct spending generated \$4.4bn (€3.2bn, £2.7bn) in wages and salaries for US workers and supported 132,015 jobs in the United States;

Before-and-after visitor spending, estimated to total \$2.4bn (€1.8bn, £1.5bn), added an additional \$6.6bn (€4.85bn, £4bn) to GDP, generated \$2bn (€1.5bn, £1.2bn) in wages and supported 61,971 jobs nationwide.

Total contribution of AZA-accredited zoos and aquariums to the US economy in 2012 was \$19.8bn (€14.6bn, £12.3bn), generating personal earnings totaling \$6.4bn (€4.7bn, £3.9bn) and supporting 193,986 jobs. Eight of AZA's 10 international member organisations reported direct annual operating and capital

Summary of Economic Impacts Generated By AZA-Accredited Zoos and Aquariums, 2012 (In billions of 2012 dollars)

Sources	Direct outlays	Total output ⁽¹⁾	Personal earnings ⁽²⁾	Jobs supported ⁽³⁾
Total U.S.	\$6.948	\$19.842	\$6.378	193,986
AZA Members	4.578	13.206	4.447	132,015
Visitors	2.370	6.636	1.961	61,971
International	\$0.491	\$1.146	\$0.352	10,772
Canadian	0.116	0.265	0.082	2,674
Other*	0.375	0.881	0.270	8,098
Total Impacts	\$7.439	\$20.988	\$6.730	204,758

Source: Association of Zoos and Aquariums; GMU Center for Regional Analysis. Notes: (1) total value of goods and services generated directly and indirectly as a result of annual expenditures by zoos and aquariums and their visitors in the US in 2012; (2) additional earnings generated within the U.S.; (3) additional new jobs supported nationwide by the spending and re-spending of direct expenditures. *Four of six non-Canadian zoos reporting.

expenditures totaling \$490.7m (€360.8m, £304.6m) in 2012. This spending added an estimated \$1.1bn (€809.2m, £683m) in aggregate benefits to the economies of these international members' countries, generated \$352m (€259m, £218.5m) in new wages to workers residing locally (in addition to direct payroll outlays) and supported 10,772 jobs across their respective national economies.

These analyses have confirmed that the economic impacts of annual spending by AZA-accredited zoos and aquariums and the visit-related, off-site spending by their

guests have benefits that far exceed the value of the initial investments.

These benefits constitute an important source of new income and jobs that contribute broadly across the economy locally and at the state, national and international levels. ●



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NEW DYNAMIC

Dynamic Earth celebrated its 10-year anniversary with the appointment of a new senior manager. Julie Moskalyk reveals her plans for the earth sciences centre



Julie Moskalyk has big plans for the site

ABOUT SCIENCE NORTH AND DYNAMIC EARTH

Science North is an agency of the province of Ontario, which is part of the government of Canada – the agency of tourism, culture and sport. It maintains the second- and eighth-largest science centres in Canada: Science North, featuring an Imax theatre, digital planetarium, butterfly gallery and Special Exhibits Hall; and Dynamic Earth, an earth sciences centre, which is home of the Big Nickel.

As well as the two science centres in Sudbury, Science North also oversees an award-winning large format film production unit and an exhibit sales and service unit, which develops custom and ready-made exhibits for sale or lease to science centres, museums and other cultural institutions all over the world.



WHAT IS DYNAMIC EARTH?

Dynamic Earth is one of the family of attractions owned and operated by Science North. Science North is an agency of the province of Ontario, which is part of the government of Canada – the agency of tourism, culture and sport.

We're one of two science centres in our attractions. Science North is a general science centre and Dynamic Earth focuses on earth sciences – primarily geology and mining.

Sudbury is a very unusual geological landscape. About 1.85 billion years ago, a huge meteorite hit the Earth and created the Sudbury Basin, which is visible from space. The structure is home to some of the richest nickel mines in the world and we still operate and mine nickel extensively in this region.

Dynamic Earth is built on the outer edge of that meteorite crater and has a model underground mine tour experience, which lasts 45 minutes.

WHAT'S YOUR CAREER HISTORY?

I moved to the Sudbury region when I was 15. My dad was a colonel in the army and this was just another location that we were posted to. I volunteered at Science North because I was passionate about science. Within a few months I was hired as a student science demonstrator. I worked at weekends and on holidays throughout high school and when I went to university in Ottawa to study biology, I

▲ Dynamic Earth is built by a crater created by a meteorite hitting Earth

worked at Science North in the summer. When I graduated, age 21, I was hired as a full time staff scientist.

I've worn many different hats, from leading our education department, to overseeing exhibit floors, to our outreach initiatives and programmes. Eight years ago, I moved to leading our international sales team, then, in July, I became senior manager of Dynamic Earth.

WHAT DOES YOUR NEW ROLE INVOLVE?

I lead the science centre in achieving its strategic goals and mission, which includes attendance, revenue, visitor experience, new exhibits, development and renewal – the whole gambit of activities that happen here.

There are large goals in this way, but there's also the day-to-day core operation. Our visitors deserve a fabulous experience and I'm often out on the exhibition floor communicating science with them. Recently, I was here at 3am because we had a family sleepover and were sharing the load and I was lucky enough to get the early morning shift.

It's the classic director's role of leading strategic initiatives and the nitty gritty daily operation, which is fun too.



WHY DID THE JOB APPEAL TO YOU?

My background is science and science communication and getting people turned on to science. I've done this my whole life and get a lot of energy from it.

Eight years ago, I stepped away completely from our science programme and communication to leading the business development of the work that we do for other science centres and museums. I loved that job and had the pleasure of travelling to hundreds of museums and science centres, but I missed teaching and being on the ground with visitors. This was the perfect opportunity to come back to leading a science communication operation at the level I was working at.

WHAT ARE YOUR PLANS FOR DYNAMIC EARTH?

Part of the reason our family of attractions continues to have the high performance that we've enjoyed for almost 30 years is the changes we've made. We're constantly adding, revamping and updating our visitor experience.

We have a \$5m (€3.7m, £3.1m) renewal planned for Dynamic Earth that will open in 2015, which will include adding an outdoor geology science park onto our 14-hectare site. We're also

▲ The centre has invested in a \$5m renewal plan that will include new special effect underground exhibits

going to change our underground experience to focus even more on modern mining and technology, add exhibits and make changes to our galleries and open a 200sq m (2,153sq ft) special effects theatre. I envisage some kind of 3D effect in the middle of the theatre that really showcases the meteorite hitting the earth and creating the Sudbury Basin.

My other plan is to build up our Halloween celebrations. Dark tourism, which can mean a range of things, including a Halloween family experience, is growing. It's huge in North America and is one of the biggest areas of tourism that's developing in Asia. We've always celebrated Halloween because we have this perfect underground model mine, which we rename as the Tunnel of Terror.

For the two weeks of the holiday, we run Halloween workshops, presentations and experiences. We're looking to grow that experience. October's a slow month for us, so we need something new to attract a different audience.

WHAT WILL THE NEW EXHIBITS BE?

One of the important areas for us to focus on is communicating what modern mining is all about and how different it is from even 20 years ago. It's all about exciting use of technology to make mining safer and more efficient. There are many misconceptions from the public, which we need to correct.

We'd also like an exhibition about the diamond industry in Canada. This has been a developing mining sector in the last decades and we now have the highest quality diamonds in the world coming out of Canada. There's a diamond mine five-hours north of here and diamond cutting facilities in Sudbury so we want to communicate that. We have other ideas, which we'll confirm soon.

WHAT ARE THE CHALLENGES?

Securing the funding to do everything we want to do is the challenge. There's no limit to our ideas – the limit is the budget. We anticipate having continued support from the mining sector and special government grants and programmes that will help us to tap into funding.

Schedule is also a challenge. We want the next phase to open in March 2015, which isn't that far away.



Science North took over the Big Nickel Mine site in 1984



Visitors to Dynamic Earth can experience fun mining exhibits

Our primary audience for the last 30 years has been young families.

As we now have a significantly ageing population, we're shifting our offer

In terms of the attraction, just like every other themed attraction, museum, science centre, zoo, aquarium, we're all competing for those leisure dollars. We're in a good position because we're an education facility and an entertainment facility so visitors get great value. But competing with others is a challenge.

Another issue, which is an opportunity and a challenge, is that Sudbury's dynamics are changing. Our primary audience for the last 30 years has been young families. As we now have a significantly ageing population, we're shifting our offer in programme, special events and visitor experience to appeal even more to adults and the older audience.

WHAT IS THE BIG NICKEL?

The summer of 2014 is the 50th anniversary of the Big Nickel – a gigantic five-cent coin. Dynamic Earth used to be called The Big Nickel Mine, which was opened by a local businessman named Ted Szilva. He created the Big Nickel and the model mine tour experience.

Science North opened in 1984 and took over the Big Nickel Mine. Ten years ago it transformed it into an earth sciences centre with galleries, an HD theatre, gift store and F&B, as well as the underground experience. We'll have a huge party on July 22nd with fireworks and hopefully the Canadian band Nickelback will play. We'll also host a new exhibit about currency called In The Money.

WHAT IS DYNAMIC EARTH'S USP?

Firstly, it's our fabulous staff – they're scientists who are great communica-

tors. When you marry people who really know their science together with great communication skills then you have this incredible resource. Our staff is our biggest investment. We deploy the biggest portion of our operating funds to our staff and their development.

Secondly, it's the type of exhibits that we have. Visitors don't read a piece of signage, press a button and then read about what happened. We're a deeply interactive, hands-on, engaging science centre. With our staff, visitors use actual tools and do real science with our exhibits and learn that way.

WHAT ARE THE ISSUES AND TRENDS IN THE INDUSTRY?

One of the trends, and I think we've seen it in all attractions in the last five years, is the addition of multimedia experiences – 4D theatre, special effects and motion-based theatres. These have all been added to augment the technology experience in our facilities, lengthen the stay and, in some venues, add revenue with a separate ticket.

Also, many new science centres and museums are adding a living eco system element. We've always had live animals at Science North, but many new centres include an aquarium or live animal component. There's now even more of a blurring of the lines between museums, science centres, zoos and aquariums, which I find very interesting.

Another trend for the type of science centre Dynamic Earth is that we're very tightly tied to industry. We're an earth sciences centre, and earth sciences activ-

ity is often linked to mining activities globally. One of the trends is the deep connection with industry and understanding what they're doing, what their future's holding and being able to effectively communicate that to our visitors.

DO YOU THINK SCIENCE NORTH WILL CONTINUE TO EXPAND?

Absolutely – we have more space on that property. When we opened 30 years ago, we were 80 per cent government funded. Now we're 65 per cent self-generated and 35 per cent government. Being able to self-generate revenue is always top of our entrepreneurial minds.

I can see Science North continuing to grow and expand and possibly add another attraction in the future. We're very interested in the waterpark industry. There isn't an indoor waterpark within a three-hour radius and it's a whole other dynamic for us. It'd have to be indoors, as it's cold for six months of the year.

WHAT ARE YOUR FUTURE PLANS?

I'm 44-years-old. I've spent the bulk of my life at Science North and I've loved it. There's a lot of support from our CEO and COO to come up with cool, exciting ideas for our visitors and make them happen. That's kept me excited for all these years.

I love the community. I live in this beautiful Canadian wilderness and work for an attraction that I love. I see myself staying and leading new projects and initiatives at a senior executive level for the next 10 or 15 years. Who knows what'll happen after that. As we say at Dynamic Earth, change is always in motion. ●

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WEATHERING THE STORM

Hurricane Sandy was the second-costliest hurricane in US history. Dave Luchsinger, Statue of Liberty and Ellis Island superintendent, describes how he and his team dealt with the devastation left behind

What happened?

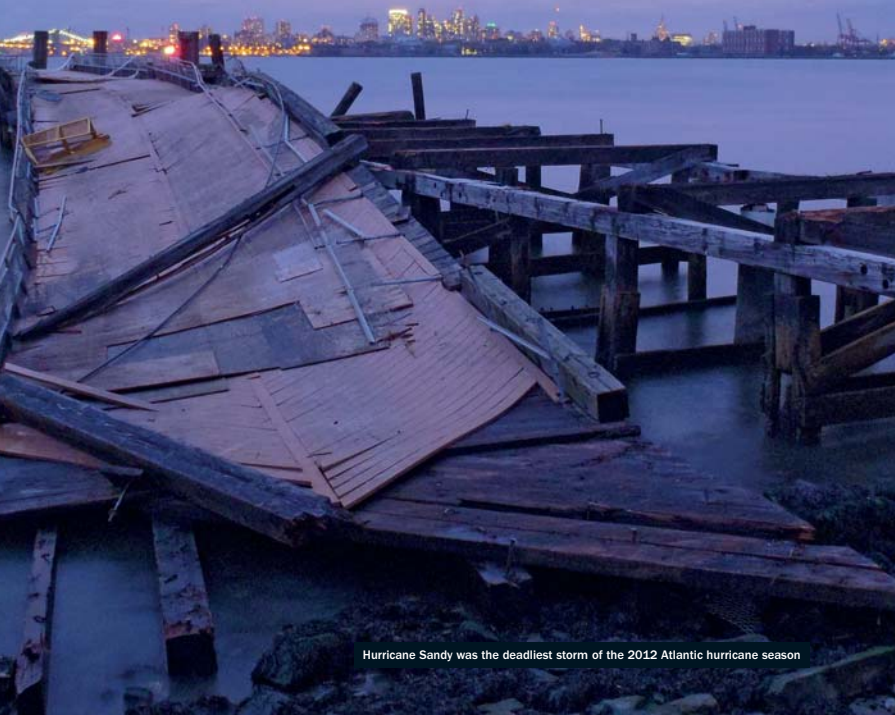
On October 29, 2012, floodwaters from Hurricane Sandy covered 75 per cent of Liberty Island and almost all of Ellis Island, flooding basements of all buildings with the exception of the Statue and Monument. Winds and flooding from the storm destroyed most of the infrastructure on both islands including electric, water, sewer, HVAC systems, phone systems, security systems and radio equipment. The visitor security screening facilities at Battery Park and Liberty State Park were destroyed. The main passenger pier and work/emergency pier on Liberty Island were severely damaged, as were the perimeter walkway and railings.



PHOTO: FLOOR/SANDRESPONSE/APS



“It was sickening to see the damage because
we’d just completed several projects and
the park was starting to look fantastic”



Hurricane Sandy was the deadliest storm of the 2012 Atlantic hurricane season



Storms destroyed most of the infrastructure on Liberty Island (top left) and Ellis Island (bottom left). Superintendent Dave Luchsinger (right)



Where were you when Sandy hit?

I'd had both islands evacuated and my wife and I were at her mother's house in central Jersey. The hurricane hit in full force, but we didn't have the flood tides that Liberty Island did.

The following morning, after the storm, my team and I headed over to the island. That was when I realised how bad it was.

My duty station prior to this was in Louisiana, after Hurricane Katrina. Having seen the devastation there, this wasn't surprising to me. No one expected the storm surge to be the way it was, but we couldn't have been more prepared.

How did you feel?

It was sickening to see the damage because we'd just competed several projects and the park was starting to look fantastic. Then this happened and there was so much devastation. It was very sad.

One of the moving things was heading from Ellis Island over to Liberty Island and seeing the flag still flying and the statue standing tall and proud and unscathed. That was uplifting.

What happened next?

We had a ton of clean up to do. I also submitted a report to my regional office

and the Washington office – we're part of the National Park Service under the US government department of the interior – so they could get resources to help us. An incident command team came out a few days later to help us clean up. We mobilised the staff we could get to come up here and started picking things up.

What was your action plan?

The first part was clean up. Everything was destroyed, so we had to rip it out. Putting it back where it was didn't make sense, as if it happened again, we'd be back in the same position. As a result, we've elevated many of our systems – HVAC, electrical, water and sewer – to second storeys and higher ground, so we could get operational pretty quick if this happens again.

What was the work required?

We had the clean up and several trees had to be cut up and taken away. We're on two islands so had to bring equipment and take dumpsters off by barge. We replaced all the walkways and the HVAC, electrical, water and sewer systems. Much of our furniture was destroyed. Windows and doors were blown out. Some of our offices on Ellis Island were

completely destroyed and were condemned, so had to be ripped down.

We also had to build two new docks at Liberty Island. One's complete and the other's underway and will be finished before the end of the year.

What improvements did you make?

Most of our systems were from the eighties restoration on Liberty Island and the nineties restoration of Ellis Island. So the equipment wasn't state of the art. We've not only placed most of our equipment in better areas, but it's also better technology and brand new. We've also used materials that can be cleaned out quickly if they're flooded, so we can be operational much quicker.

The walkways used to be very thin, brick pavers. Now they're interlocking, encased, much wider pavers.

Our security system at Battery Park was destroyed, so we've replaced it with new machines – and a lot more of them. They're quicker and the facility is larger now, so there are minimal to no wait times for visitors to get ferries to come over to the island. The visitor experience and flow is much nicer. We're now a lot more efficient thanks to the new equipment and bigger and better facilities.



A press conference on Ellis Island after Hurricane Sandy. Clean up and reconstruction for both Liberty and Ellis Island cost \$77m



“We have temporary electric – we’re using some old radiators that used to heat the building when it was an immigration station”

How did you raise the funds?

The project has cost \$77m (£56.6m, £47.4m). The Federal Government Congress passed a Hurricane Sandy relief bill that allowed us to get the money to take care of the stuff that’s damaged. We’re using the park’s own budget plus its concession franchise fees to pay for the changes we’re making.

What were the challenges?

The biggest challenge was coming to work every day, seeing what had happened and not having what you’d normally have equipment- and comfort-wise to make it better. We were working out of our cars, as there were no offices, heat, air conditioning or electricity.

Getting hold of generators, equipment, tools, materials and suppliers was hard, as the entire area was destroyed and the demand for these was so great – and still is. Some of us brought in our own tools to get things going because we’d lost all the site tools too.

When did you reopen?

The Statue of Liberty Crown and Liberty Island opened on July 4th. Ellis Island Immigration Museum reopened on October 28th. The museum will remain a work in progress until next spring at the earliest. Repairs to the water and sewage systems have taken place and we have temporary electric – we’re using some old radiators that used to heat the building when it was an immigration station. A new system will be installed soon.

Most of our collection of millions of documents and artefacts is stored in a climate-controlled facility in Maryland until we get a new HVAC system – it’s extremely complicated as it goes through a historic building. We need to figure out how to put in a system that’s as sustainable as possible without damaging the fabric of the building. We can’t just put the HVAC system up on the second or third floor, as we’d be taking away critical public space and would have to redirect all the duct work.

How much was lost in earnings?

Between the storm hitting on Oct 29th 2012 and 1st June 2013, we lost more than \$6m (£4.4m, £3.7m) in revenue. I don’t have the figures for June yet, prior to our July 4th opening of the Statue of Liberty Crown and Liberty Island.

It wasn’t a good time for anyone. But we had a very good summer season, albeit that we weren’t open on Ellis Island, which cut into what we’d all be getting in revenues. We had an increase in visitation this summer, despite the fact only half of the park is open, which is a good sign. We’re running at about five per cent more visitors than usual.

What advice can you offer?

The thing you should concern yourself with first is the safety of staff.

Also, it’s always good to take a fresh look at what you have and try to take into account sea level rise and storms and make your sites as sustainable and resilient as you can. ●

In the world of visitor attractions, the term from which augmented reality gains its name – virtual reality – hasn't had a good track record. Remember DisneyQuest of the 1990s? Huge computers, large displays, lots of interaction promise, but in just a couple of years, this multi-million dollar investment seemed like a retro 1950s low budget sci-fi movie.

The term virtual reality is now mostly confined to the world of computer games and internet mass player games, but it's been around much longer than most realise, originally coined in 1938 by French author Antonin Artaud to describe the immersive reality of well staged theatre. He described the ability to transport the audience to another more existential place as "la réalité virtuelle".

With the term rooted in the experience economy of the early 20th century, perhaps 75 years later the term will prove to have merit and be more relevant to the staging of events and experiences in attractions worldwide?

THE TECHNOLOGY

Augmented reality (AR) can best be described as an individual perception of the real world being overlaid with information delivered visually as computer graphics, sound and interactively via touch or haptic feedback – a combination of virtual and real. One development engineer recently described it as "an automotive repair manual delivered directly to your brain as you're lying under the car repairing it".

The technology is dependent on accurate positioning of where the user is, by a combination of GPS and WiFi location finding linked with information on orientation, acceleration and direction

REALITY CHECK

Will augmented reality revolutionise the way we navigate, perceive and encounter the real world or is it a technology trend that will be gone as soon as it has arrived? Blair Parkin finds out

fed back from sensors in the AR device or associated mobile device. To make the technology wearable, all the major computing power is remote in the cloud.

The cloud is best understood as a powerful communication network connecting you and your display device to huge computers in data centres operated by companies such as Amazon and Google. On these computers, information you seek is processed and delivered back almost instantaneously.

VISIONARIES

AR is a technology term that is soon to become popularised by the tech giants shaping our communications and interactions – Google, Apple and start-ups such as Oculus VR and Atheer Labs.

Google in particular has grabbed the headlines with the beta test phase of its Google Glass technology. The head-worn device feeds visual information to the peripheral vision area of one eye and allows the overlay of information delivered via the web over the real world encountered by the user. Doubling up as a phone and a video camera, it allows

interaction between the user and remote participants or storage of information on social media websites, and probably much else besides. It's a classic example of a technology invented to enable, but as yet no one's really sure the full extent of things it can and will enable and ultimately how that will be monetised.

Google Glass is in its trial phase, thrown open to several thousand people to try it out and develop applications. The trials prior to the 2014 consumer launch are known as the Explorer phase – rather ironic given that that's also the name of Microsoft's web browser – with the community of testers having rather geekily become known as Glassholes.

The development's being led by Sergey Brin, co-founder of Google. The device on trial is a two-way communications technology in the form of a pair of designer spectacles with only one lens. It recovers and transmits information via the mobile data networks to computer servers that apply huge amounts of commuting power to provide instant information to the user.

Also part of another trend, wearable computing, Google Glass is set to create a new perspective on how we use a mobile device and how information and service providers can deliver content to users not actively searching for it; instead, passively allowing information to be overlaid onto their daily activities.

HEADS UP

AR is potentially set to challenge one of the biggest weaknesses and social pariahs that's come with the mobile device so far. From Blackberrys and iPhones to computer tablets, the mobile is driving the increasing "heads down" nature of human behaviour. Whether it's walking down the street, sitting in a bar or even around the dinner table, more and more people can be observed

Oculus Rift – a new device for the games industry – is worn over the eyes for an immersive experience





Google Glass
is a two-way
communication
technology in the
form of a pair of
designer spectacles





immersed in social and other interactions, staring down at, tapping into a screen.

The advent of mass consumer AR devices may just change that. Imagine a world where you wear your phone; it delivers maps, information and other details to you as you look up at something. Though fraught with privacy issues, this way of searching by using the real world as the trigger and the context has enormous potential. Take a photo by voice command and share it over the web to colleagues, friends and family. Navigate to a new place, find a restaurant in a strange city – all without heads down, typing and tapping to search.

The number of AR devices in development in California is staggering and with similar developments happening worldwide, it's likely we're going to see a new class of mobile device and interaction emerge. Imagine a phone, mobile computer, camera and voice-controlled web search, all rolled into your glasses.

GAME ON

Where the web search world has Glass, the computer games industry has the Oculus Rift, a device that's worn over the eyes and is fully immersive. It tracks movement and direction and displays a stereoscopic 3D image to the viewer while playing a computer game. No keyboard, no mouse, just natural human interactions and movement to navigate through the virtual world. This device also becomes available to consumers sometime in 2014 and is set to change the way computer games can

Augmented reality computer games are expected to be a huge consumer hit when they launch in 2014

be played and perceived, potentially opening up new areas to augment real world experiences with virtual reality computer games. The trials of this technology have really had an impact on the games development community and it's expected to be a massive consumer hit.

This technology is set to challenge many conventions from social interactions to privacy and security. Putting that to one side, it seems likely that the technology will become both pervasive and potentially ubiquitous. Almost everyone visiting an attraction has an online computer on them on which they can search the web, leave feedback about their visit on sites such as TripAdvisor and use the device as a ticket and even as a payment method. So how could this new breed of consumer AR devices impact the leisure and attractions market?

COOL FACTOR

Well, firstly, while the technology's rated as cool, producers and storytellers are bound to try weaving it into their offer, as a new way of delivering experience and encountering the attraction. This, like all technology-based experiences, is likely to be ephemeral and a passing fad.

More important is the longer-term impact of these devices to leverage a new kind of visitor-driven interaction with






everything from the food and beverage offer to the ride, exhibit, show and everything in between. They could capture the whole day, navigate the park and comment in real-time about the experience. Operators should start thinking about what they want to offer via this medium, beyond themed programme content.





The trick's going to be ensuring that the physical attraction is available as a 3D digital map like Streetview, and to post and deliver information in physical space that can trigger virtual information. Imagine a specials board in the restaurant that has nothing written on it, just a graphical symbol. When you look at it, the specials of the day with all the associated information is delivered directly to the user. To leverage this future technology to engage the visitor and provide information to aid navigation, reduce wasted time and potentially increase spend, then another important factor will be to have a good network infrastructure, including a well designed geo-location supporting WiFi network.

The trend is coming and young brains will harness it, so how will your attraction leverage it? The place to start is to study the technology, engage with it and begin to grasp the enormous range of possibilities it represents. ●



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ACCOUNTS

MEMBERSHIP

BOOKINGS

CATERING

RETAIL

ADMISSIONS

HEADS UP

Riding through It's a Small World at Disneyland (or almost any other attraction) is different today than it used to be. Look around as you ride. How many glowing faces do you see? Not faces aglow from the joy they're experiencing from riding a beloved classic attraction, but because they're tapping on their smartphones.

Make no mistake, the audience has changed. And it's imperative that park and attraction operators change as the needs, demands and the way people use parks change. Even as visitors make their way through park gates into lands of make-believe, they still engage in the outside world constantly, maintaining their connection to family, friends and co-workers with email, Facebook, Twitter, Instagram, Vine and everything else that vies for their attention on that supercomputer nestled in their handbags, backpacks and pockets.

Should operators compete with smart devices, make them a part of the experience or distract visitors from using them? Thinkwell's Craig Hanna ponders the issue

GAME CHANGER

More than a decade ago, attraction designers felt the pressure of competing with rising expectations that came out of consumers playing video games. They began to offer interactive attractions, such as Buzz Lightyear's Astro Blasters and Men in Black: Alien Attack. Guests could engage a dark ride by shooting at targets, adding a play (and videogame-

like repeatability) component to these attractions that never existed before.

Video games led to mobile phones, which begat smart devices. It's not unusual to see theme park visitors completely bypassing massive multiple inversion coasters, colourful parades or night-time spectaculars because, head bowed, they're more compelled to check in on Facebook about riding the coaster, seeing the parade or watching the fireworks than actually experiencing them.

The key thing to consider is this: it's not a passing phase or fad. The technology may change from a handheld device to one you wear on your wrist, like Samsung's Galaxy Gear, or on your face like Google's upcoming Glass (see p44), but this change is here to stay.

Operators can ignore this with an attitude of, "they've paid, so why should I care?" or they can embrace the technology by offering innovative new experiences that grab guests' attention.



The Star Tours experience has been reinvigorated in recent years to incorporate a range of 3D adventures and storylines for visitors



Hershey's Great Chocolate Factory Mystery in 4D allows the audience to vote on how the story proceeds, with a choice of more than 100 different variations



Disney's Sorcerer of the Magic Kingdom engages younger visitors in their own separate adventure



With more than 45 installations worldwide, Desperados combines video game interactivity with 4D-style attractions. Visitors can enjoy an experience that is part shooting gallery, part video game and part immersive media attraction

MULTIPLE ENDINGS

There are many attractions and experiences that have embraced the technology. These include the groundbreaking Star Tours that first introduced motion simulation to many in 1987. It was reinvigorated as Star Tours: The Adventures Continue in 2011 with 3D and randomly branching storylines, so riders experience something different with each ride.

Hershey's Great Chocolate Factory Mystery in 4D, at Hershey's Chocolate World in Pennsylvania, is a 3D movie experience that offers visitors the chance to vote on how the media proceeds, offering more than 100 variations. Walt Disney World features Sorcerers of the Magic Kingdom, an interactive overlay to the park that utilises storytelling and special spell cards. Children are sent on an

adventure throughout the park to interact with magical video displays embedded in shop windows, which use optical recognition to allow young visitors to interact with the story and "battle" villains when choosing the right card to play. Desperados has 45 installations worldwide and combines interactivity found in video games with 4D-style attractions and a modicum of motion simulation. Its fun interactive attractions are part shooting gallery, part video game and part immersive media attraction.

These are just the start in terms of bringing interactivity into attractions. Some operators are offering RFID bracelets that allow guests to check in and like on Facebook by tapping their wrists to readers as they queue for that water slide or roller coaster. Parks are provid-

ing in-queue trivia games that are played via mobile device and large video screens to keep guests engaged. And other attractions are using gesture-based technologies to give guests a chance to play team games in holding areas.

SMART TACTICS

All of these examples attempt to engage visitors in new ways, while trying to pry their eyes and fingers away from their smartphones. Does the quality of the guest experience suffer when everyone's posting to their favourite social media site and uploading photos to share with family members far away? Does it suffer more when operators try to placate that social interaction with new technologies?

These questions aren't going to get answered anytime soon, but operators



Punchdrunk's *Sleep No More* retells the story of Macbeth in a five-storey warehouse in New York and has been a huge sellout hit

A generation of theme park goers have been raised with a mobile device in their hand. Content creation and interactivity is a way of life to them

need to connect with visitors by augmenting the experiences they already offer with additional, compelling enhancements on those ubiquitous bits of technology their customers hold in their hands.

The Pew Internet Project's 2013 report states that 72 per cent of all adults in the US use social networking. While the highest penetration is in the youngest age bracket of 18- to 29-year-olds at a whopping 89 per cent usage, even the oldest age bracket of 65+ has a usage range of 43 per cent. In February 2005, only nine per cent of 18- to 29-year-olds used social networking sites and only one per cent of the over-65s used them.

Altogether, 40 per cent of cell phone owners use social networking sites on their phone. (The Pew Internet Project dove into the notion of creation versus curation in 2012, so this data is a year old. Even a year ago, an incredible 46 per cent of all adult internet users posted original photos or videos online.) A generation of theme park goers have been raised with a mobile device in their hands. Content creation and interactivity aren't an option to them, but a way of life.

CONTROL ISSUE

When a visitor plunks down their hard-earned cash to enjoy their day, the big

questions are: do they want to participate in their experience with their mobile device or without?; Do they want control of the story or do they want to be amazed and immersed?

American film critic, journalist and screenwriter Roger Ebert once said: "Six thousand years ago, sitting around a campfire, a storyteller could have stopped at any time and asked his audience how they wanted the story to come out. But he didn't because that would have ruined the story."

There's so much interactivity going on in our lives – do we really need more when all we're trying to do is escape? Do multiple-choice experiences result in confusion rather than engagement? Could interactivity mean something other than a technology-based solution?

AUDIENCE PARTICIPATION

Consider UK-based theatre troupe Punchdrunk and their mega-hit theatrical experience *Sleep No More*. Set on five floors of a warehouse in the trendy New York City meatpacking district, more than 100,000sq ft (9,300sq m) and 100 rooms have been completely dressed for a truly interactive retelling of Macbeth. Audiences participate, donning simple white masquerade masks and instructed

not to speak, moving at will from room to room as performers sing, fight, scream, dance and occasionally take members of the audience by the hand into private one-on-one scenes. The whole experience unfolds over three hours. Running to sellout crowds since 2011, the production is a phenomenon.

And what about Secret Cinema? The group puts on immersive, environmental recreations of films, inviting spectators to be part of the action, before the event culminates in an immersive screening of the selected film. Recently the group has staged events around London based on *Alien*, *Blade Runner*, *One Flew Over the Cuckoo's Nest* and *Brazil*.

These experiences combine theme park immersion and special effects with theatrical production values, environmental storytelling and a high level of audience interaction and participation.

Halloween haunts have always been keen to offer a similar experience, so pioneering haunted maze leader Knott's Berry Farm went one step further in 2012 by offering an up charge, completely interactive and highly personalised experience called Trapped. Groups of six are locked in a filthy restroom and are required to solve clues and find a key (in a stinking, soiled toilet) to lead them to



Secret Cinema's immersive recreations of films allow visitors to be part of the action. Past film events include *Dirty Dancing*, *Saturday Night Fever* and *Brazil*



the next stage of the adventure. If one person opts out, the entire group has to abort the mission, adding peer pressure to the psychology of the activity. It doesn't really get much more interactive than that.

MAGIC TOUCH

But the future might well lie in Walt Disney World's own MyMagicBand, an opt-in bracelet that, at its simplest, replaces cash and credit cards or hotel keycard folio debit systems with a touch-to-pay solution. But that's just the tip of the technological iceberg. MyMagicBand's built-in near-field communication (NFC) technology allows park employees to know a guest's name and birth date, so Cinderella (via an earpiece or hidden data display) can greet the

visitor by name and offer her a special button to wear for her special day.

This system could be rolled into all sorts of other experiences: audio-animatronics could call people by their name within attractions, dark rides could interact with riders in different ways based on how many times they'd ridden and drink dispensers could refill fast food cups with a guests' favourite beverage without touching a button.

Of course, all this technology roll-out and interactive reader devices cost major money. Disney is spending close to \$1bn across all its parks to achieve this unprecedented level of interactivity. And it's not all guaranteed success. Only time will tell if visitors respond and Disney's coffers fill from the ease of use and added benefits of MyMagicBand.

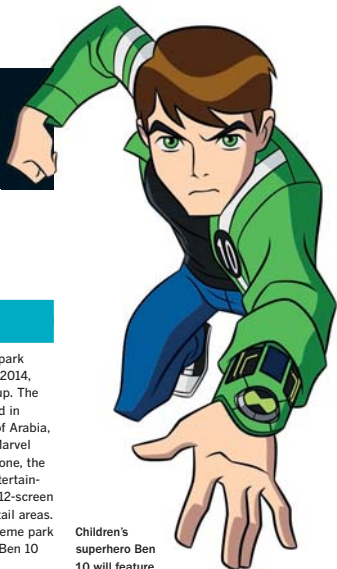
In the meantime, as people become more immersed in their own technologies and social media, operators of theme parks, cultural experiences and attractions are going to have to find new ways to engage, commune and communicate with the paying public.

Finding the right balance of story-telling, interactivity, technology, choice and immersion will result in a level of engagement that will truly offer visitors a glimpse at the future. ●



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UP & COMING



With the brand new theme park season open for business, we take a look at what's new for 2014

This has been a busy year for the attractions industry. Projects that had previously stalled – particularly those in the UAE – are moving into the final phases of completion and will open to the public in 2014. Asia continues to show strong growth, with announcements of both big and small parks for next year and ride manufacturers in both the US and Europe are predicting a solid year ahead.

It hasn't all been good though. Finding affordable land that can justify huge capital investment is still the major barrier for many attractions' investors and even some big theme park stalwarts are facing the difficult decision to shut poor performing parks in major cities that should, on paper, be a financial gold mine.

The start of a new investment cycle builds fresh hope however, whether a site is in its umpteenth season or its first, and new product brings excitement and renewed impetus for operators in an industry that thrives on getting bigger, better, faster and more thrilling.

DUBAI'S WORLDS OF ADVENTURES TO OPEN

The Worlds of Adventure theme park in Dubai will open in mid to late 2014, according to developer IMG Group. The theme park, which will be located in DubaiLand's much-delayed City of Arabia, will consist of four zones – the Marvel Universe, the Cartoon Network zone, the Lost Valley zone and the IMG entertainment zone. It will also include a 12-screen cinema and external F&B and retail areas. The 140,000sq m (1.5m sq ft) theme park will feature children's favourites Ben 10 and Marvel superhero Iron Man.

Children's superhero Ben 10 will feature

INTO THE ABYSS

Perth-based Adventure World will open its brand new Aus\$12m (US\$11.4m, €8.4m, £7.1m) roller coaster in November 2013. Abyss is the single largest investment at Adventure World since it launched in 1982 and features a 10 storey-high vertical lift, a 100ft (30.5m) vertical drop and giant turns and twists. The 630m (2,000ft) Gerstlauer custom built coaster also features four daylight inversions and a secret dark ride section, as well as a zero-g-roll, rollover loop, cobra roll and inline loop. The theme is a spooky underworld with towering Guardians, massive upturned trees with exposed roots and an intimidating themed arch entrance to create a feeling of impending doom.

The Abyss rollercoaster is themed around a spooky underworld





TRANSFORMING COSTUME CHARACTERS

Universal Studios Hollywood has introduced robotic, voice technology enabling walk-about characters to its park, which interact and speak with its theme park guests. As an extension of its thrill ride Transformers: The Ride – 3D, the humanoid robots Megatron and Optimus Prime can now engage in conversations with guests in both the tone and personality of their characters.



The new ride 'shrinks' guests into a mad Paris kitchen

SOMETHING COOKING AT DISNEYLAND PARIS

A new dark ride based on the *Ratatouille* movie will open at Disneyland Paris next year. *Ratatouille: L'Aventure Totale*ment Toquée de Rémy will use trackless ride vehicles and 3D to 'shrink' guests and submerge them in the madness of a Parisian kitchen. (See interview with COO Joe Schott on p26.)



PHOTO © L. CORNIGLIA/ANSA

Film studio Cinecittà will house the park

FILM STUDIO TO OPEN PARK

Cinecittà World, the cinema-inspired theme park being built near Rome, Italy, is to open in the first half of next year. The US\$700m (€517m, £43.7m) park will combine art and cinema to create a tourist attraction with theme park rides aimed at families and children. In subsequent phases, the park will also house shops, restaurants and film sets.



A £39m park planned for Russia will offer historical reenactments

ALL SYSTEMS GO

Work has started on Robot Land theme park in the coastal city of Incheon, South Korea. The park's developer, Robotland Co has broken ground on the US\$600m (€444m, £376m) project, which will include a robot-inspired theme park, robotics school and accommodation. The park is scheduled to open in 2016.

WELCOME HOMER

Universal Orlando Resort in Florida has opened its new themed environment based on TV show *The Simpsons*. Springfield features all of Homer and family's favourite haunts, including Shelbyville by the Sea and Duff Brewery. As well as The Simpsons Ride, the newly-themed area includes iconic eateries and an outdoor attraction based on the show's evil alien duo, Kang & Kodos.



The park area features Homer's haunts



The new park in China cost £2.18m

THE OFFICIAL ANGRY BIRDS

The first official *Angry Birds* theme park in China opened in October in Haining, East China's Zhejiang province. Although there have been many unlicensed imitations in China, this is the only official Rovio Entertainment *Angry Birds* theme park outside of Finland, where Rovio Entertainment is based.

Attractions include a 4D theatre, an interactive square for guests to play versions of the popular *Angry Birds* game and also a parkour zone aimed at teens. The 20m yuan (US\$3.25m, €2.54m, £2.18m) park is just 150km (93 miles) away from mainland China's first Disney Resort in Shanghai, which is due to open in 2015.

CREATING HISTORY IN MOSCOW

Suburban landowner and property developer RDI has announced plans to build a historical theme park in Moscow in 2014. The Russian theme park will be a showcase for costumed historical reenactments, similar to the French theme park Puy du Fou.

Russian developer RDI, has allocated RUB2bn (US\$60.3m, €45.5m, £39m) and 1sq km (0.38sq m) of land for the project, which could be built within the next five years. The theme park will also include a 150-room hotel, ethnography museum, historical village with guest houses and an amphitheatre and will be able to cater to around 40,000 visitors once it's open.

DEEP ROOTED

Plans are underway in Dubai in the UAE to build a themed destination based on the Quran. The Dubai Municipality says the new Holy Quran Park, which will be based on the central religious text of Islam, will open in September 2014.

The 60-hectare US\$7.3m (€5.5m, £4.7m) attraction will showcase "the miracles of the Quran" and is said to include an outdoor theatre, children's play area and a series of Islamic gardens featuring many of the plants and trees mentioned in the text of the Quran.

Six Flags parks around the US have many new attractions for 2014



News reporter or dentist? Kids can 'try out' new skills at KidZania in Mumbai



JOB DONE

India's first KidZania has opened this month in Mumbai. Backed by Bollywood superstar Shah Rukh Khan, the 75,000sq ft (7,000sq m) attraction is operating under a licensing deal with KidZania Mexico. KidZania Mumbai, located in Ghatkopar, is the 13th KidZania franchise worldwide. Imagination Edutainment India, the India franchisee, plans to open other KidZania sites in cities across India, including Delhi and Bangalore.

FLAGS FLYING

Six Flags has a host of new attractions for the 2014 season. Six Flags America will introduce a New Orleans-themed Mardi Gras section to its Baltimore park along with two new rides; Ragin' Cajun, a four-passenger train, fast-track roller coaster and a family-friendly, flying ride called French Quarter Flyers. At Montreal's La Ronde, high-flying, inverted spinning ride The Demon will debut next year.

At Six Flags Great Adventure in New Jersey, a drop ride called Zumanjaro: Drop of Doom is new, which at 415ft (126m) will take the honour of tallest drop tower in the world when it opens next year. The ride will replace the park's classic wooden coaster Rolling Thunder.

At Six Flags Magic Mountain, California, Bugs Bunny World – the children's area of the park – will undergo a makeover, with the addition of a new children's coaster and family-friendly show in the Carrot Club Theater. Six Flags Over Texas is also expanding its children's area for the new season, with new rides and an interactive play area.

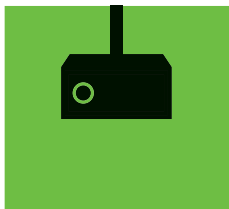


Europa visitors will meet the Minimoys

ARTHUR'S SEAT

Visitors to Germany's Europa-Park will be able to get up close and personal with the world according to Luc Besson in April 2014. The French director of the *Arthur and the Invisibles* trilogy is working alongside Mack Rides to create a new family attraction based on the films at the family-run park.

Arthur – In the Minimoys Kingdom is a 3,500 m (11,480ft) attraction built under a 15m (49ft)-dome, featuring the secret world of tiny beings called Minimoys. Visitors will experience seven kingdoms, including a 550m (1,800ft)-long flight through an underground universe. A dark ride is part of the attraction, as well as a free-fall tower and carousel ride, built within Grimm's enchanted forest. ●



FACE VALUE

Expand your social reach and drive awareness with technology

Social media has long been criticised for its limited reach. Ironical, when you think that over a billion people now use Facebook. But the number of likes, shares and comments that a piece of content receives on a Facebook page is often a proportionately smaller number when compared with the eyeballs on a traditional TV ad or the circulation of a national newspaper.

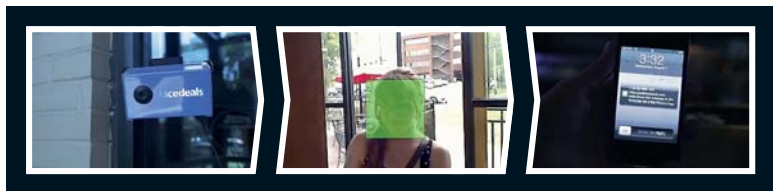
One of the issues that drives this mentality is the way in which brands use social media – with a primary focus on engagement. This isn't to say that engagement is an unworthy objective. It's just that many social channels provide an equally important function – social proof. Regardless of the data that supports it, common sense tells us that we're far more likely to trust a brand, buy a product or visit an attraction if it's recommended by a friend.

E-commerce brands have long cottoned on to this reality, and it's rare to

find a successful e-shop that doesn't allow product reviews, social shares or likes. But why has one industry embraced this tactic, while others fail to maximise its benefit? The answer to that is simple – technology.

While a website can so easily be integrated with social channels, businesses that sell experiences find technology a far more challenging and expensive barrier. For the attractions industry, this couldn't be more true.

However, this position also allows for a much more exciting opportunity – to



● ● ● ● Face Deals use state-of-the-art facial recognition software to reward regular customers and visitors with special deals



● ● ● ● (Above and left) the BOS Ice Tea team trialed its product on the streets by tweeting a hashtag that activated a vending machine and dispensed a free drink

★ Using live Twitter activations, BOS successfully brought the social space into the real world

bridge the gap between the real world and social media. If carried out in the right manner, social channels can begin to drive reach far beyond the expectations of a normal campaign and can ensure higher engagement levels at the moment it matters most.

Let's take a look at some of the technologies available in today's ever-innovative social space.

FACEDEALS

Facedeals uses state-of-the-art facial recognition software to reward regular customers with deals. When walking into a venue with Facedeals, a camera picks up the person's facial features, initially taken from photos on Facebook, and sends them a message with a deal, often related to their profile interests.

In essence, this is the next step in Facebook check-ins.

Facebook check-ins is a powerful mechanism for businesses to deliver discounts to loyal customers, yet few businesses have realised it. Try it yourself. A search for deals in your local area will bring back a limited number of results. More often than not, the incentives for a check-in aren't nearly enticing enough for us to take the time.

This introduces a concept that real life and social integration can benefit from. Typically, for a user to engage with brands on a social platform, it must either be highly convenient or, better yet, incentivised.

When physically at an attraction, one minute of fame is more than likely a good enough reason to check-in.

Think about this. If a Facebook user visiting your attraction sees a big digital screen at the entrance, welcoming those individuals who've checked-in, the incentive to appear on the screen is more than likely worth the simple action. It's easy, it's fun, and there is next to no barrier to entry.

How does your business benefit? Social proof and reach. Suddenly, the number of check-ins at your venue increases. Visitors' friends see the check-in on Facebook, no doubt interact with it, and most likely seriously consider visiting themselves.

For just a limited up front investment, you'll be able to reach out to a serious number of people in what really is the best form of advertising – that of personal recommendation. ▶

► LIVE TWITTER ACTIVATIONS

While not one specific technology, a number of brands have taken advantage of a very simple technique. By sending a tweet with a specific handle included, individuals can activate any number of real life technologies. Take a simple vending machine. With the right application of technology and an Internet connection, sending a simple tweet can prompt a vending machine to dispense a drink or snack. BOS Ice Tea is a South African brand that has done just that, sampling their products on the streets of Cape Town via a simple hashtag.

Their goal was simple. They knew that if people tried their product, they would likely want to repurchase. The vending machine was eye catching and drew the crowds, but with Twitter as the activation tool, amplification became easy, spreading the name of the brand to

Touch two Pokens together and you can share contact details, exchange social profiles, or link up to a brand's social platforms, all in a few seconds

those unable to taste it for themselves. While an obvious gimmick, BOS successfully brought the social space into the real world.

POKEN

Pokens are simple USB devices that use near field communication (NFC) to allow a variety of social actions. Touch two Pokens together, and you can share contact details, exchange social profiles or link up to a brand's social platforms, all in the space of a few seconds.

With such a simple device, event visitors can immediately become fans of a brand and meet new people. It also pro-

motes longevity, by creating an online community around an event, enabling participants to connect with their new contacts and explore the information collected on a custom branded online interface created for your event.

You can also use the Poken Game Pack to create interactive competitions and motivate participants to take specific actions in alignment with your event objectives.

As with most of these gadgets, Pokens provide a form of analytics to help measure success. You have access to the number of contact exchanges made between participants and the exact amount of digital materials collected at your event.

● ● ● ●
Touch two Pokens together to share contact details



PHOTO: LUCY RANNE/REXUS

● ● ● ● With Poken, visitors can instantly become a brand fan and meet new people

INSTACUBE

Originally funded by Kickstarter, the Instacube is a digital photo frame that pulls photos from any hashtag or user name from Instagram. While far from a game changer for brands, it does highlight just how simple the display of social photos can be. Consider this in a larger context, a panel of screens rotating between pictures of customers on the day they visit an event or attraction.

Customers are suddenly given a reason to include your unique hashtag in their social stream. Their friends will be exposed to photos of your venue and the hashtag itself could begin trending. While the novelty factor will draw the crowds, the biggest benefit to any brand is, of course, reach.

FIND THE RIGHT TECHNOLOGY

So how do brands embrace technology and leverage social channels to extend reach? All of the technologies mentioned utilise two primary tactics. Firstly, they successfully bring social media into the real world. A common mistake made by brands is the assumption that consumers see a difference between the two. In reality, social media is part of their world and its use is simply another way to communicate.




● ● ● ● Instacube: An attraction could display a screen of rotating images of customers on the day they visit the site

Secondly, each device gives the end user an incentive to use their social channels in a particular way. This is extremely important as it not only encourages use, but a use is dictated by the brand's aims. And, if developed in the right manner, can extend reach and awareness on a significant level.

We all live in a digitally enabled world, where the lines between on and offline are becoming increasingly blurred. By proactively trying to blur them completely, brands don't need to rely on customers finding their social channel and liking, sharing or engaging with their content. Until they have an explicit reason to, most customers will happily focus on the brands they have more frequent contact with. For an attractions business, there must be no barrier.

By leveraging social check-ins, likes and shares through technology, you ensure that your customers will share their visit with friends. On Facebook specifically, this has two enormous benefits. Firstly, EdgeRank ensures

 **Instacube is a digital photo frame that pulls hashtags and user names from Instagram**

Facebook users only see what's most relevant to them, based on how they engage with friends or brands. As a result, users will see far more interactions with a brand through the people they engage with daily, over original posts made by the brand itself. With people sharing their own pictures and check-ins, but ensuring that your brand is associated to it, we don't need to rely on a continuous feed of unique and interesting social content. As brands, we can achieve the ultimate desire of user-generated content.

Secondly, and to the first objective raised in this article, technology drives reach. It amplifies what your customers are already doing online and aligns it with your brand's objectives. Only then

can we begin to see the big numbers traditional advertisers love to talk about.

To deliver a cohesive social strategy using real world technology, put yourself in your customers' shoes. What would encourage them to interact on their chosen channels? How can this be leveraged and what are the technologies you need to make it a reality?

Fundamentally, if you apply the rule, 'keep it easy, keep it fun', you will find that social media can go far beyond the impact of more traditional channels. ●



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IAAPA 2013

The annual attractions expo takes place in Orlando from 18-22 November. We talk to some of the exhibitors to see what new attractions and technology will be on show



MotionDome draws on technology from the military and science industries

HoloVis, Barco and projectiondesign

HoloVis will be showcasing MotionDome, which is an immersive, interactive 2D and 3D platform.

The team at HoloVis has worked with visualisation experts Barco and projectiondesign, to create the experience in which audiences are fully surrounded by 180° projection. MD

of HoloVis, Stuart Hetherington, says: "We wanted to utilise the expertise we have in other sectors, such as high end military simulation and training, real time visualisation from the technology industry and true immersion from the science sector, to take storytelling to the next level."



Riders experience a velocity-building drop

WhiteWater

WhiteWater has recently completed the first installation of the Boomerango™ and Manta™ in August, at Nagashima Resort, Japan. Combining the thrills of two rides, the journey begins with the classic sensation of rafting, leading into a screaming, velocity-building drop that launches riders up the Boomerango wall, making them feel as though they're "going vertical", then weightless, while getting a bird's eye view of what's coming next. With barely time to catch their breath, they're racing across a flat section, propelling them into the rushing waters of the Manta.



The Condor ride is being upgraded

Huss Park Attractions

Huss is introducing the new ride concept, the Explorer. Guests are seated in a 12m diameter, circular gondola which gives unrestricted views of a surround screen. A seamless 360° multi-projector film format delivers immersive, high definition content, unique to each installation.

A wide range of environments can be created: beneath the sea; in space; or some of the world's most spectacular scenery. The content can also be created as CGI, live action or a composition of both.

The second generation Condor is also being re-introduced with a new improved ride design. The ride involves a number of two-person gondolas swinging, rotating and reaching a height of 26m (85ft). Two Condor contracts have been concluded with Chinese clients for a delivery next year.

Jack Rouse

Jack Rouse completed work on the new improved Crayola Experience in Easton, PA, in May this year. Spanning four floors, it has 21 new attractions to allow kids to explore art, technology and their creativity, such as creating your own clear barrel marker and fashioning their own crayon label.

Clara Rice, director digital engagement at Jack Rouse, predicts people will be talking about new technology, protecting international property and the state of the economic recovery at this year's show.



The Crayola Experience has 21 new attractions where kids can explore art and technology



Riders meet their superheroes in 'Justice League: Alien Invasion 3D' on the Gold Coast

Sally

Sally will be profiling two major interactive, multi media-based dark rides. Justice League: Alien Invasion 3D – which is in situ at Warner Bros Movie World on Australia's Gold Coast – is the first-ever dark ride to feature Superman, Batman, Super Woman and the other Justice League members. It features the first use of interactive 3D screens, blended with

interactive physical sets, scenery and animatronics, together with numerous special effects.

The second is Zombie Apocalypse. Blending realistic, reactive 3D media with physical sets, animatronics and SPFX, this 18,000sq ft (1,672sq m) ride takes guests on a true horror adventure, where motion base vehicles tilt, turn and brake to add to the thrills.



IPlayCo offers games and branding

International Play Co

IPlayCo will be featuring its turn-key services including playground branding, games and events development systems. Products include themed play, dramatic play, sports attractions, interactive components, Tuff Stuff areas and climbing walls.

The company offers multiple product design/build solutions, as well as operations, marketing and customer service systems to help clients build a business model.

Kathleen Kuryliw, marketing coordinator at IPlayCo, says show attendees will be looking at how to compete with other FECs and theme parks for the entertainment dollar in an uncertain economy. New ways to draw in customers and keep the venue fresh will be important to all of the operators. ►



Defender is a new filtration product

Neptune Benson

Neptune-Benson will be profiling the Defender® aquatic filtration system and the Defender Assero® aquatic filtration system, which remove over 99.9 per cent of Crypto in a single pass and can remove particles down to one micron or less. Defender® is proven to save money on water and waste; fuel and chemicals; footprint, electricity and equipment maintenance. To date more than 1,000 Defender® filters have been installed in more than 16 countries.

"Waterparks are getting larger and using more water and power to run the growing attractions. If you don't optimise your equipment in the back room, your money is wasted and these costs will only increase over time," says Jill Bibby, Neptune-Benson's head of marketing.



Cruden spent time with the Dutch military to get its powerboat simulation just right

Propel Technology

Motion simulation company Cruden will be launching its new powerboat simulator. This is the first Cruden simulator to offer interaction for three guests at once. The guest to the right of the driver controls the throttle; the person on the left is the navigator. Depending on customer requirement, the simulator can be switched to race car mode. Cruden has spent hours with the Dutch military on its fast

interceptor vessels and security boats to get the motion right.

On the stand, guests will be able to drive a dual engine P1 powerboat or a fast interceptor military vessel boat in the open cockpit Hexatech 3CTR (three-seater) simulator.

Cruden also offers a race car simulator, but the power boat simulator is available at a lower cost, because it only requires two DOF, instead of six.



Hettema's latest install is at Lotte World

The Hettema Group

Ride designers and producers, The Hettema Group, recently completed installation of an interactive, game-based dark ride in Lotte World, Dragons Wild Shooting, along with a number of other exhibitors: Garner Holt, Lexington, TechMD, ETF, Alterface and Pure Imaginations.

"We're all looking forward to seeing what's new on the show floor, as well as connecting with old friends and partners," says the Hettema Group's Lisa Welsch.



Omniticket

OmniTicket Network will be focusing on its mobiles solutions, including its iPhone app, new mobile optimised websites and RFID stored value solutions, which enable the use of RFID enabled wristbands and tickets throughout an attraction to pay for admission, products, food and beverage. The company will also be showing its Interactive Turnstile Transformer, which transforms turnstiles, counters or desktops into a dynamic access control solution, with a range of options on offer including a barcode scanner, magnetic swipe reader and a biometric reader.

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Picsolve has launched GSX to video at Warner Bros Studio Tour in the UK

Picsolve

Picsolve will be demonstrating its award-winning product range, including Ride Photography & Video, Waterpark Photography and immersive Green Screen Technology, as well as showcasing the digital product suite for the first time.

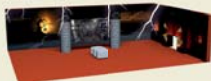
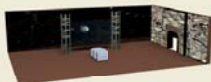
Guests will have the opportunity to demo the new Picsolve mobile app and experience the GSX digital solution, enabling clients to provide customers with fully integrated and seamless purchasing.

Since winning Best New Product at the 2012 IAAPA Brass Rings Awards, Picsolve has launched GSX to video at Warner Bros Studio Tour London – The Making of Harry Potter. The product pipeline includes many more planned GSX to video installations with several key global partners and industry leaders.

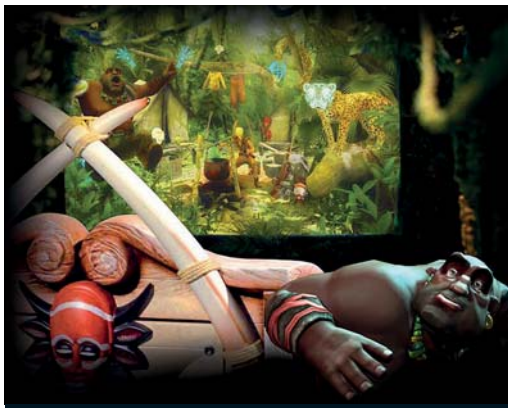
The Juice

After a successful soft launch at the EAS show, The Juice will be officially launching the new Mapped Dark Ride, which combines 3D/4D film, theming, special effects, sound and lighting and can be easily transformed from a Halloween ride to a Christmas or a summer ride at the flick of a switch.

"This system enables clients to work within their own client demographic according to their audience on the day or to take advantage of special events without additional expense," says Pauline Quayle, The Juice's director. New branded films available for next season's rides will also be unveiled.



Theming is changed by flicking a switch



Alterface's new dark ride can easily be rethemed and added to for greater longevity

Alterface

Alterface will be showcasing its compact interactive dark ride concept, GameRide. It has four 3D screens in 3D and two interactive theming zones, which use exclusive solution, mixing interactivity and video projection mapping on the scenery.

Life size interactive theming from the ride will be on display, with the real guns and real décor. During the experience, props come to life and

react to the shooting. Lights and sounds reinforce the story. Retheming and new content can be easily added to add the longevity of the ride and improve the ROI.

African Magic is the film being shown, which takes players on safari through the jungle with exotic animals, a tribal village and the savannah, with a final fight against ivory looters in an elephant cemetery. ●



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Aquaventure has 'slides within slides'



Humungaslide is a high speed coaster

Cartoon Network Amazone completes Humungaslide

Cartoon Network Amazone – Thailand's first internationally branded waterpark – is on track to open in the first half of 2014 with the completion of Humungaslide in September. The high-speed water coaster is based on the popular Ben 10 alien, Humungousaur and is part of The Omniverse, one of 10 themed zones at Cartoon Network Amazone, each offering an array of water coasters.

Riders in two rafts race each other in circular slides, speeding through twists and turns before being dropped 8m (26ft) into the clutches of Humungousaur. The Omniverse zone has six high-speed water coasters, as high as 23m (75ft).

The world's first Cartoon Network waterpark spans 35 rai (14 acres) and is located in coastal Bang Saray, Thailand. Liakat Dhanji, chair and CEO of Amazon Falls Co Ltd, the developer of the waterpark, says: "Cartoon Network is the number one kids' channel in Asia Pacific. Fans are going to get to experience all its incredible series and characters in ways they never dreamed."

WhiteWater provides world's largest waterslide to Dubai

Atlantis The Palm, the Aquaventure Waterpark in Dubai expanded its offer in September with the addition of a six-waterslide complex. With a 40m (131ft) tower, the complex features a number of world firsts including two AquaTubes™, which fly through the world's largest 9m (30ft)-diameter waterslide – the Anaconda™. It's hailed as the first dual suspended body slides within a slide experience (called flume-thru-flume technology).

At Aquaventure, six-person rafts plunge riders into the dark, serpentine depths of the tunnel raft ride to experience twists and turns with intense vertical banking to 4.6m (15ft) and speeds of up to 35kph.

The ride is 23m (75ft)-high and 182m (597)-long and is available as a three-, four- or six-person raft ride. It's designed to be easily combined with WhiteWater's other attractions for a larger experience.



Kongo Expedition takes in flooded caves, tropical villages and waterfalls



Calypso opens African river adventure

Billed as Canada's largest waterpark, Calypso Theme Waterpark has opened a new CA\$7m (£4.3m, €5.1m, US\$6.8m) attraction called Kongo Expedition. The river ride is 400m (1,312 ft)-long and takes 15 minutes to complete. It includes flooded caves, tropical villages, waterfalls and a family wavepool and splash zone. Created in-house, Kongo Expedition is Calypso's first lazyriver with inner tubes.

Calypso opened in 2010 at a cost of more than C\$50m (£31m, €36m, US\$48m), east of the capital city, Ottawa. The park covers 100 acres (40 hectares) and has more than 35 waterslides, 100 water games and the country's largest wave pool.

Called Kwai River, it takes the theming from the iconic World War Two film *Bridge Over the River Kwai*, starring Alec Guinness, and each of the boats is named after a character from the film

Interlink's super flume goes to Finland

Interlink's super flume log flume ride opened at PowerPark in Härmä, Finland in July. Called Kwai River, it takes its theming from the iconic World War Two film *Bridge Over the River Kwai*, starring Alec Guinness, and each of the boats/logs is named after a character from the film.

The super flume features two lifts and two drops, one of 7m (23ft) and another of 14m (46ft), with an overall circuit length of 400m (1,300ft). The ride has nine, six-seater boats, providing an hourly capacity of 600 passengers and a themed station building with a 12m (39ft)-long section for loading and unloading.

The ride is situated in a new area of the park and has been integrated into an existing bridge structure, hence the theming, something that provided an additional challenge to the Interlink design team. The soundtrack from the *Bridge Over the River Kwai* movie is



The flume handles 600 riders per hour

used throughout the ride and an existing bridge structure is both a major theming backdrop and the access to a new Thai restaurant at the park. ►

WATERPARKS

Zamperla updates the tea cup ride

Watermania is one of the latest additions to Zamperla's product range. It takes the form of a duelling tea cup ride on water with a standard configuration of six, four-seater cups providing a total capacity of 24 passengers and a theoretical hourly capacity of 480.

Each rider is seated in front of a water gun, which allows them to shoot water at fellow riders. As the whole ride rotates around a central axis, each cup also rotates, alternately clockwise and anti-clockwise, making the 'battle' between the cups more fun. Loading and unloading of the cups is carried out from outside the pool thanks to a control system that ensures the ride stops in the same position after each ride.

As well as the standard format, Watermania's also available in a double configuration – two standard rides next to each other – offering a total of 48 seats and an hourly capacity of 960 riders. The



ride is very compact, with the diameter of the single version, including surrounding fencing, being 13m (42.6ft) while the double version is 25m x 13m (82ft x 42.5ft). A double version opened this year at

Coney Island in New York, USA and the first single model opened at Splashdown Beach in Fishkill, also in New York.

Two more single models are bound for Turkey and Indonesia in the near future.

Watermania takes the form of a duelling tea cup ride on water.
As the ride rotates, each cup also rotates alternately clockwise and anti-clockwise, making the 'battle' between the cups more fun



Child's play from Empex

Empex Watertoys' series of water toys for under-12s now includes Aquatropica, Aquacircus, Aquapirata and Aquaracers.

Aquatropica is tropical themed, with palm leaves, flowers, birds and animals.

Aquacircus is an interactive circus of water events, water toys and climb and slide play features. Aquapirata is a pirate themed climb and slide play structure and Aquaracers are a series of interactive racing cars, placed on a racecourse, with race themed water toys.



Arihant launches thrilling slide rides

Visitors to Portugal's Aqualand can now enjoy Arihant's new Typhoon Tunnel and Open Float Slide.

Aimed at adrenalin seekers, riders sit either alone or in pairs on an inflated tube or float. The 54in (137cm) width of the tunnel ensures a thrilling sway as they speed round the turns.

The Typhoon Tunnel is 15.8m (52ft)-high, 113m (371ft)-long and carries around 590 people per hour. The float slide is 17.4m (57ft)-high, 189m (620ft)-long and has the capacity for 480 people per hour. ●


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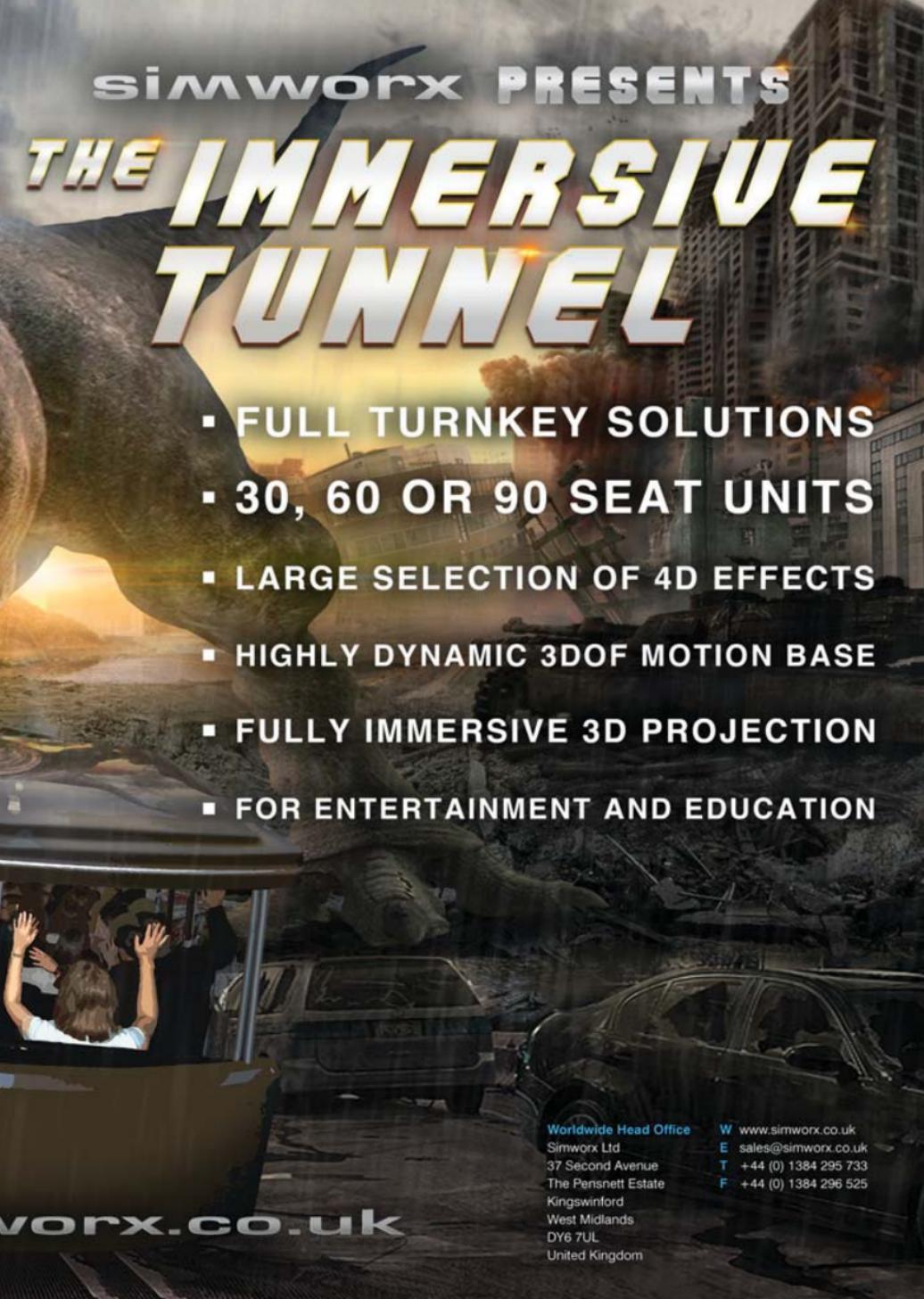


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SHARED VISION

Dinosaurs, dragons and a trip beneath the ocean are among the exciting 4D offers new to the market

Triotech's interactive dark ride design explores underwater world

Triotech is designing and manufacturing an interactive dark ride for Wondermountain's Dragon at Canada's Wonderland. Featuring 200m (656ft) of interactive wall, the project will combine a rollercoaster with an interactive dark ride and will begin outside the park's iconic mountain, then travel under the mountain. Effects will include wind, light, movement and real-time interactivity.

Triotech has also scripted, developed and produced 3D movie *Mystery Shipwreck* for its interactive cinema. Visitors go back in time and navigate a 19th century vessel that sinks in a storm. Forwarding to present day, visitors explore the shipwreck and expose ancient



▲ Visitors go back in time and then fast forward to the future and use lasers to find artefacts

artefacts with laser pointers. Using a remotely operated vehicle, they also experience marine life as the submarine navigates toward the sunken vessel.

For institutions with an educational mission, the five interactive chapters each have an informative element and a fun dimension, with individual scoring.

Electrosonic helps cultural centre make digital switchover

The Polynesian Cultural Center (PCC) in Laie, Hawaii, celebrated its 50th anniversary with an upgrade of its theatre, which now features AV support from Electrosonic. A new digital 4D theatre replaces the centre's aging film-based

Imax theatre, which was more than 20 years old, and offers an enhanced guest experience both inside and out.

Electrosonic installed a new digital AV system, including a Christie 4K projector, 7thSense 4K media server and Strong/

MDI 40x74ft (12x23m) projection screen. "Converting to digital 4K projection offers numerous advantages over the former Imax 15/70 film system," says Electrosonic project manager Guy Fronte. "The cost of maintaining the film-based system – the price of lamps for the 15,000-watt projector, the maintenance agreement and fees for shipping and replacing films – was significant. The Christie digital system is economical and efficient. It has no significant operational costs other than lamp replacement and doesn't require a projectionist."

Electrosonic also provided a new 7.1 surround sound system (five screen speakers, two theatrical subwoofers and 11 surround speakers) featuring JBL Cinema Series speakers and QSC amplifiers. An assistive-listening headset system allows simultaneous playback of the signature film's narration in eight languages.



▲ The centre's new easy-to-operate digital screen replaces a 20-year-old IMAX screen



The animation aims to reflect accepted scientific data on dinosaur behaviour

Red Star brings dinosaurs back to life in 3D and 4D

The Lost World is Red Star's latest 3D/4D production and is distributed exclusively by nWave Pictures Distribution.

In the film, stressed businessman Bob heads to a remote island to get away from it all. Little does he know, the island isn't quite as deserted as he thought and crazy adventurer Professor Lizzie is the least of his worries – the island is populated by prehistoric dinosaurs.

During the 11-minute film, audiences feel velociraptors rush past their feet, a T-Rex's powerful breath as it roars in their face and the earth shake under a brontosaurus' colossal feet and feel. The 3D element creates the illusion that the dinosaurs are coming out of the screen while 4D effects include water splashes, vibration, wind blasts, seat drop, lighting, leg tickle and 5D motion cues.

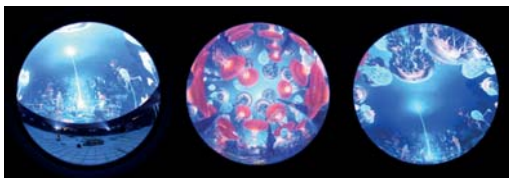
The film is for theme parks, museums and science centres. Red Star's creative director Ben Smith says: "The main challenge was depicting the dinosaurs realistically. Although this is an animated film, we knew that institutional venues would want a film that shows dinosaurs in a scientifically accurate light. We've based their appearance and behaviour on what's considered scientifically correct."

Holovis creates fully immersive dome at India's first theme park

Holovis worked with Adlabs Imagica, India's first theme park, to create a transformative sensory experience for the cinematic show *Prince of the Dark Waters*. This is an animated love story designed by 3D animation and visual effects specialist Prana Studios, set in a hemispheric dome that fully immerses the audience in the 360° projection and surround audio and brings the characters to life through compelling story telling.

Holovis designed and installed a turn-key dome solution for the experience – the country's first full dome system with a 24m (79ft) fully hemispheric structure.

Before entering the dome solution, visitors watch a pre-show animation displayed on a projection screen that features comic-book style animation



▲ The dome is a 24m, fully hemispheric structure, delivering an all-round sensory experience

to draw the audience into the storyline before they engage with the visual spectacular that waits inside.

Once inside, the audience is immersed in the story which takes them on a virtual dive into the ocean. Mermaids and under-sea creatures surround them from all sides on the 3,100sq ft (288sq m) screen.

This effect is created using six precision placed Christie DS+10K projectors using the Holovis Optirig projector alignment systems. A special-

ist camera-based auto-alignment and dome calibration technology is permanently installed into the dome theatre to generate the required geometric distortion, blending and colour matching, all applied in real-time from the playback server cluster for a seamless 360° image.

The experience uses a specially designed Holovis 5.1 dome and surround audio solution with special acoustic treatment applied to the dome's cylindrical wall to ensure immersive surround sound. ▶



Trans-force's aqua ride takes visitors on a glass-bottomed journey

Using professional aircraft and helicopter simulator technology, Trans-force's Aquarius takes visitors on a wrap-around visual experience in a Glass Bottom Ship. Similar to a transparent cockpit,

the 16-seat vessel uses images projected onto a 210° spherical screen to show what's happening in front and below.

As well as a 3D stereo visualisation and a vibration system beneath the seats,

Aquarius is equipped with joysticks for visitors to control the craft and its weapons with, take photos and answer quiz questions. Trans-Force also offers a full library of educational programmes.



Vuitnow app transforms visitor experience with layered effects

Using a 3D tool called Vuitnow, Wagstaffs Design has developed experiential apps which have the potential to transform the visitor experience.

The company can create a realistic environment of any building or site,

within which it can overlay historical information, voiceovers and layers of data, such as existing site versus how it would have looked in any given period.

This technology can be used to support the on-site visitor experience, whether scanning a piece of furniture to offer further information about a specific piece, or a virtual tour of an entire attraction, surpassing the traditional audio tour with something befitting this digital age.



▲ GPS technology is embedded in the app so visitors can pinpoint where they are

GPS technology is embedded in the app, so at any point visitors can ask "Where am I?" and plan a route around the exhibition and find the nearest café or facilities.

Wagstaffs has started building apps to support heritage sites, the first being for Lake Innes in New South Wales on behalf of the Australian Government. ●

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THE NAME GAME

Does an attraction need a well known brand to entice visitors in or is there still room for originality? Christian Lachel offers some advice



We're seeing it more and more in the press and trade papers: Disney buys Lucasfilms (Star Wars) for a record US\$4bn (€3bn, £2.5bn); new movie-based theme park announced in Dubai; Hello Kitty expands overseas with new park in mainland China.

What's all the buzz about? Why is there an ever-growing uptick of parks and attractions leveraging existing intellectual property (IP)? Is this a good strategy? (It may have something to do with the success of Harry Potter at Universal Studios, which has caffeinated the Orlando Park and will soon be drawing fans in Hollywood and Osaka, Japan.)

So, how do you judge the value of licensing known IP versus generating something original? Conventional wisdom is that IP gives you bang for your buck. You're able to leverage someone else's brand or "an established creative product", to draw customers to your attraction. But does it work for everyone?

When Disneyland opened in July 1955 it featured a lot of IP, but it all belonged to, and had been created by, Walt Disney

and all of it was crafted to align with the ambitious thematic storytelling of his still-magical park. Disneyland was, literally, Disney's Land.

But Disney is Disney, right? The great exception? No. Most of the world's most successful attractions launched and succeeded without buying outside IPs – they created their own. Just look at Universal, Merlin, Knott's Berry Farm, Europa-Park, Alton Towers, Everland, Puy du Fou, Ocean Park, Liseberg, Efteling and Ripley's Believe It or Not.

So what is the mid-sized or smaller start-up attraction to do? What do you do if you have an existing park that needs refreshment? Sometimes IP is the right answer, sometimes not. Here are some principles to help clarify your thinking.

The only IP worth buying is the one you probably can't afford.

The IP you really want is the one priced beyond your reach because it encompasses a vast universe of connected stories, settings and characters. We call this story world IP. This kind of IP has the depth, breadth and narrative ambition to offer an ever-expanding story world

to the guest. Story world IP has a strong and dedicated fan base while appealing to all visitors. Mega IPs include Star Wars, Harry Potter, Marvel, Lord of the Rings, Star Trek and Avatar.

These IPs will be animating the public imagination for decades to come. But you can't afford them. Instead, studio licensing execs are offering park owners lesser movie or character based properties. These are less compelling and could well be forgotten a few years from now. And they can still be pretty expensive.

When calculating the value of an IP, focus on its future value, not its current value. Make sure the projected life of the IP matches the projected economic life of the investment. Real estate and IPs sometimes amortise at very different rates. Story world IPs have longevity and make sense. Others may not.

Nostalgic characters can create powerful emotional connections.

Nostalgia is a powerful tool that connects older generations to newer ones. Certain IPs can have this affect. Nickelodeon, Thomas the Tank Engine, Sesame Street, Peppa Pig and Hello Kitty span genera-



With three more *Avatar* films to come, Disney's *Avatarland* is a good IP investment



Harry Potter is an evergreen IP – his appeal will last for generations to come

BANKERS, BACKERS AND INVESTORS MAY BE

REASSURED BY THE INVOLVEMENT OF A WELL-KNOWN

IP AND BE MORE LIKELY TO LOAN OR INVEST

tions. Often the shows are still playing in the market. The parents remember the joy they had with the brand, as their kids discover it for themselves.

What's the key? The best nostalgic and popular character-based IPs have an engine of transmedia marketing support, which ensures the IP stays relevant and new. This includes a network of new media offerings, advertising, events and attractions. If you can afford these types of IP, they may be worth the investment.

There's a difference between an IP and an attraction.

The license only gives you an IP (characters, a title, a logo, a story). Who will turn that IP into an attraction, a ride or a show? What will that cost? Compare the costs, tasks and risks of the investment with other alternatives, such as developing something that you'll own outright.

The most valuable walk-around character in your park is your guest.

Will the IP in question allow guests to enter a special world they love to be in? The IP may have created extraordinary narrative experiences in the movie or on

the tv show, but will this translate to your park? How can you invite your guests to become participants in your story? Guests have entered your 'world'. Who do they want to be? What IP approach best delivers on these needs and wants?

Beat the Clock

Our experience is that licensing an international IP can have a positive impact, similar to installing a new iron ride. Even if unrelated to the over-all brand of your park, a good international IP will most likely give you a one- to two-year attendance bump and some additional revenues based on promotional value and newness.

Conventional IP also bolsters banking credibility. Bankers, backers and investors often don't trust their ability to judge an un-built and un-produced creative idea. They may be reassured by the involvement of a well-known international IP and, therefore, be more likely to loan or invest in your park.

The problem is that when you go down this path, you mount a treadmill with no off switch. You've got to keep generating new IP-based attractions every year or two to appeal to fickle customers.

The other problem is in the overall investment calculation. In some cases, the licensing costs of the IP offset the gains made in admission price, attendance and additional spend in the park. But it might not give you the gains you were hoping for – does the licensing cost balance with the upside?

It's way too easy to fall into the "Logo and Paint" approach – freshening an old attraction with a bright new IP logo and some paint. More often than not, the short term gains you make are off-set by the licensing costs. Once the initial bump wears off, you're stuck with the fees without the added impact. Always default back to the most important question you can ask: Does this help me create the story world I imagined for my visitors?

What makes my attraction special?

The long-term play for park owners and developers is acquiring or creating content that distinguishes your park from others. The ultimate purpose of original content is to transform your park into its own story world. Examples of this are: Puy du Fou – France's second-most-visited theme park is a series of astonishing ►



(Left) Legoland didn't just create its own IP – Legoland is the IP; (right) Hello Kitty is a perfect fit for Malaysia and China

► action-packed shows featuring hundreds of actors, horsemen, swordsmen and volunteers. Everything about this park is original, from the ambition of its creators to the program to the content and production of the shows themselves. (See *AM Q1 12* for a review of the park.)

Europa-Park – the largest theme park in Germany and the second largest park in Europe, after Disneyland Paris. Europa-Park has 100 attractions and shows, with 11 roller coasters and 13 European themed areas – and not a single conventional IP. Everything at this very successful park is unique to Europa-Park. However, that's changing. In the hope of reaching the French market, Europa-Park's creating an indoor themed area inspired by the universe of *Arthur and the Invisibles* from famous French filmmaker Luc Besson. This looks like a story world attraction that aligns with Europa-Park's themes.

Legoland – yes, a strong IP, but they have it and no one else can get it.

Another way of approaching the same idea is to ask: when you advertise your new attraction, will you be promoting public awareness of something you own or something someone else owns?

Who are we?

Does this IP make you more like yourself? Or more like everyone else?

You really want to make your brand stronger by adding attractions that deeply resonate with, and build on, who you are and what's unique about you. In the words of film director Brad Bird:

WHEN YOU ADVERTISE, WILL YOU

BE PROMOTING PUBLIC AWARENESS

OF SOMETHING YOU OWN OR

SOMETHING SOMEONE ELSE OWNS?

"Bugs Bunny didn't become famous by trying to be like Mickey Mouse."

Ask yourself: To build my brand, what story does my attraction want to tell? Does this IP make my park's IP stronger or more confused? What helps me tell my story? Does this support the special identity of my park and deepen its narrative values?

Efteling, Puy du Fou, Ocean Park, and others create original content and prove that this is the wisest long-term investment, if done right. Original content is evergreen. Each piece supports and complements the other pieces.

Make sure it has legs.

What's the commitment of the studio or brand toward the IP you're considering? Is there a second, third or fourth film in the works? Is there a transmedia world of marketing and air-time supporting it?

Look for IP that has significant support from the studio or brand and continues to have relevancy in your market. If there's no support, no relevancy or if the IP is tired, then it's probably best to skip this approach and find or create something else that does.

Disney's about to create an Avatar Land inside its Animal Kingdom Park.

What makes this a smart move is that filmmaker James Cameron – modern master of the story world blockbuster film – has committed to *Avatar 2*, *Avatar 3*, and *Avatar 4*. These films will deepen and broaden the story world and create new opportunities for guests to enter this enchanted world.

Be relevant to the local culture.

If you're going to license IP, pay attention to your local culture. Ocean Park is in Hong Kong where the locals like squid legs. So Ocean Park serves squid legs and their guests love them for it.

Serving the local culture could mean selecting an international IP that the local culture loves. For example, Captain America wouldn't make sense in Malaysia, but Hello Kitty does.

Or, to serve the local culture, you might want to "go local." Instead of international IPs, look at the local IPs that audiences already love. They might be inexpensive to acquire and have more relevancy with your target audience and market. Or they might be in the public domain and yours for the taking. Use the IP money you save to create a really great attraction.

What's old, is new again.

Henry David Thoreau famously said, "Don't tell me what is new. Tell me what is never old." The BBC's reinvented Sherlock Holmes for the 21st century, even as Robert Downey Jr was re-inventing him as a 19th century action hero. The theatrical producing company



Puy du Fou in France created its own IP with a series of action shows involving hundreds of actors, horsemen and volunteers

PunchDrunk reinvented Shakespeare's *Macbeth* as an immersive, site-specific, interactive work of theatre. The presentation method is innovative, but the story works because of Shakespeare's exploration of evergreen narrative themes – good versus evil, how the lust for power corrupts the soul and the role of fate in the human adventure.

The best IPs are great, soul-stirring stories. *Les Misérables* was published 151 years ago and just recently produced a smash Broadway musical and movie blockbuster. Your next IP may be something just waiting for you and hiding in plain sight. And – like *Les Misérables* – it might not cost you a penny.

Dare to be original.

"Millions of men have lived to fight, build palaces and boundaries, shape destinies and societies; but the compelling force of all times has been the force of originality and creation profoundly affecting the roots of human spirit."

Ansel Adams said this. Believe it. Your park is a story world. Your guests are adventurers. The biggest wow you can give them is a memorable, original, life-affirming journey.

At BRC, we've studied the great modern creators of rich, dynamic, electrifying story worlds – George Lucas, James Cameron, Walt Disney, JK Rowling, Hayao Miyazaki, the Pixar folks, Jim Henson, Steven Spielberg, Gene Roddenberry and Stan Lee and his compatriots at Marvel.

What do they all have in common? They each create a deep, rich, wondrous story world based on the hopes, fears and beloved wishes and dreams of their

PHOTO: FLORIAN MICHAEL MCDONOUGH



Squid legs are a favourite snack in Hong Kong, so Ocean Park made sure to include them on the menu

scores of fans. This is the perfect definition of a successful theme park. So, if you want to generate original content for your park and turn it into a story world, begin by asking the kinds of questions that these tried-and-tested creators ask:

What are the core narrative values of your park?

Disneyland is a place where you leave the common world behind and enter a rich world of fantasy and imagination.

Knott's Berry Farm is a place where families create memories by having story-based experiences (including having a chicken dinner) together.

At Puy du Fou, the people of France celebrate their heritage as warriors, adventurers and explorers.

Efteling is an enchanted place where guests can live fairy tale adventures.

Guests have entered your world. Who do they want to be?

Look again at that list of heroic values for icons of modern mythical storytelling

– courageous, daring, smart, loyal, impetuous, vulnerable and, ultimately, powerful. And they must be powerful enough to defeat the forces of evil and death, just like those evergreen heroes Luke Skywalker, Harry Potter and Spiderman.

Final Thought

Steve Jobs refused to do market research for Apple products. He said: "People don't know what they want until you show it to them."

One of the main benefits of IP is also one of its drawbacks – it's a known quantity that can be market tested. This means that there's no surprise, no delight and no shock of the new.

Story worlds are unique IP that can provide surprise and delight because of their deep, rich mythology – but only the Disneys and Universals of the world can afford the hundreds of millions of dollars it takes to license them.

The answer for everyone else – Efteling, Puy du Fou, Europa-Park, Ocean Park, probably your park – is to create original content without external IP. The great original content parks prove that this is the wisest long-term investment, if done right. Original content is evergreen. Each piece supports and complements the other pieces. Piece by piece, you build a story world your guests will love. ●



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Hobs Pit is a dark ride themed on a scary mine and has a 12A certificate

SIMULATE TO STIMULATE

ROMANCE, THRILLS, FLYING, SPACE EXPLORATION AND DAVID BOWIE ARE AMONG THE SUBJECTS INSPIRING AV AND MULTIMEDIA INSTALLATIONS

Julie Cramer, journalist

HOB2 PIT

Digital media distributor Pixels has recently adapted 12 BrightSign solid state digital signage players at the Hobs Pit theme park ride at Pleasurewood Hills in Lowestoft, UK. The players are designed to control the special effects as well as play back HD video.

The Hobs Pit attraction, which was created by award-winning illusionist Sean Alexander with the help of Hollywood special effects artist Rob Ostir, was launched this summer and transports visitors to a scary, abandoned mine.

It combines a dark ride and walk through section with a host of visual and voice effects matched to scenes in HD on LCD screens, as well as holograms and physical effects like rattling doors, closing hatches and moving corpses.

Sean Alexander says: "Making an attraction like this work for the audi-



Hobs Pit was created by illusionist Sean Alexander and uses holograms and other effects to scare visitors

ence relies on split-second co-ordination. Each effect has to happen at exactly the right moment, and when it starts, the video playback, holographic projection and physical effects need to be totally in sync – otherwise the impact is lost."



Using BrightScript, Pixels programmed the BrightSign players to replay HD video in response to triggers from sensors in the ride, and to control pneumatic valves and rams, lighting and motors for the special effects. Control was achieved through the GPIO port on the players, avoiding the need for expensive control systems.

The £500,000 ride, one of only two in the UK rated 12A by the British Board of Film Classification, is part of a £3.5m investment by owners, Looping Group.



URBAN FUTURES

The multimedia Urban Futures exhibit at Siemens' Crystal visitor attraction (see *Leisure Management Q1 13, p62*) in London's Docklands was conceived and delivered by Event Communications, with hardware installed by Electrosonic.

The exhibition, which is dedicated to urban sustainability, uses interactive media in 10 zones to challenge and reinvent the way people think about city living.

Visitors receive a Crystal key RFID card at reception that enables them to 'log in' to displays and have their

activities and areas of interest saved. They can then access a record of their experiments in the Future Life zone at end of the experience.

The journey starts with a powerful multimedia display in a glowing, egg-like structure on the mezzanine, entitled Forces of Change. Inside the egg, visitors experience an immersive image and sound environment that appears to hang in space, with images floating on the walls and floor.

Under the themes of Demographic Change,

Urbanisation and Climate change, the films (all commissioned by Event) blend still images, film clips, graphics, sound and lighting to create an experience that balances drama and statistics. After this, visitors can wander round the exhibit in any order.

Understanding Cities is a bespoke interactive exhibit based on real data used by city managers at New York's Regional Planning Authority (RPA). It uses real time information and snapshot monitoring to paint a picture of how cities work.

In the safe and sound zone, one of the most popular interactivities is the Access Control test, putting visitors in the

The Urban Futures exhibit covers 10 zones, with some unique multimedia visitor experiences in each

role of a person checking ID badges against live faces, to see if their facial recognition can better a computer.

One of the most exciting elements of the exhibition is the Tesla coil, which encourages visitors to think about energy supply by matching their physical movements to electricity demand. When demand is high, intense physical movement is required to trigger the Tesla coil.

EMIRATES AVIATION EXPERIENCE

As specialists in interactive technologies for branded environments, Engage Production has created some cutting-edge digital installations for the Emirates Aviation Experience in London.

The company was commissioned by projects managers, The Pulse Group, to design an aircraft turnaround simulation game and head-up the creative direction and coding of the finished simulation.

The game is played on three 42in multi-touch displays (MultiTaction MT420 from MultiTouch Ltd), taking the user through all of the stages of an Airbus A380 turnaround. Engage also wrote the soft-

The Emirates attraction covers a 300 sq m site in Greenwich, and is said to be the first of its kind in the world

ware and provided the camera and boom for the Airbus A380 nose cone attraction, where visitors can take a photograph of themselves sitting in the cockpit.

Each user wears an RFID tag and taps this on the reader to trigger the live preview on the touch-screen. The user then takes the photograph, which is subsequently sent to a Facebook or email



account, depending on the user's preference.

Other software written by Engage is used in the flight attraction's virtual wind tunnel application, which demonstrates how influences such as airflow, weight, drag,

thrust, lift and air pressure affect flight.

Engage also provided a holographic display (with content provided by a PC that drives a Samsung screen) to vividly depict an Airbus A380 in full flight. ▶

ATLANTIS

Two major interactive display systems at the new Space Shuttle Atlantis attraction have been delivered by AV technology experts MultiTouch.

The exhibit at the Kennedy Space Centre Visitor Complex in Florida, pays tribute to Atlantis, the last shuttle to enter space, and provides guests with more than 60 interactive touchscreen experiences and high-tech simulators. The \$100m, 90,000 sq ft space is designed to engage visitors with an out-of-this-world experience.

The new International Space Station (ISS) wall is an interactive display wall comprised of seven 55in MultiTaction Cells. To tell the ISS story, the wall offers a look into the past and provides a real-time snapshot of the present. The wall includes interactive 3D models and shows the assembly process of the space station, while animations depict a 'day in the life' of an ISS crew member.

Visitors can also experience scientific experiments and expeditions, receive live feeds from space and find out when the space station will be passing over



The International Space Station wall includes interactive 3D models, as well as live feeds from space

their house, by entering their postcode. MultiTaction Cells were also used in the Shuttle Transportation System Timeline, integrated into one tilted table that engages guests with fun facts and graphics about the 30-year shuttle program.

The timeline features key dates and milestones, mission highlights, 'edge of your seat' moments, as well as facts on the crews, expeditions, payloads, spacewalks, experiments, launches, landings and astronomy. The system is designed to handle hundreds of concurrent visitors.



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DAVID BOWIE IS

The 'David Bowie is' multimedia exhibition that featured at The Victoria and Albert museum, London, earlier this year drew on 300 objects from the artist's archive, and was one of the most successful and complex shows to have featured at the UK museum.

Dataton's award-winning Watchout™ technology was used to power the multi-image display and presentation software in two areas of the galleries, including a 7m (23ft)-high video wall display and tv displays throughout the exhibition. The

Around 300 objects from the David Bowie archive were displayed using high-tech, multimedia techniques

Watchout™ software enables the orchestration of stills, animations, graphics, video, sound and live feeds across multiple display areas. Technology is scalable and available on the Windows platform.

For 'David Bowie is', video projections were juxtaposed with mannequins



displayed in costumes from the archive and showed footage of the artist's live performances, recreating the impact of the musician throughout his career.

Watchout™ was also used to show various performances of Bowie's 1977 song *Heroes* in retrofitted displays. Systems integrator, Sysco AV, configured the museum's existing inventory of technology for 'David Bowie is'.

The exhibition is now touring internationally and started at the Art Gallery of Ontario, Canada in September 2013.

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LIGHTING AND SOUND



ROMANTICUM

Romanticum, which opened in June in Koblenz, is a new visitor experience for Germany's Rhine Valley. Visitors can embark on a journey through the region's history, culture and arts, with the state-of-the-art technology supplied by Iosono 3D bringing tales of the river and legends to life.

The exhibition covers 800sq m (8,600sq ft) and is divided into several areas, letting visitors enjoy a virtual voyage by ship, explore the deck of a steamboat and experience the salon and the storage rooms.

The exhibition, designed by studio klv, uses the latest sound technology to recreate the Rhine experience

Next to the video displays and interactive touchpoints, the visitor experience is rounded off by a special sound concept created by scenographers Taucher Sound Environments. The goal was to recreate the environment of a romantic boat trip – with seagulls crying, church bells ringing or a sudden cloudburst on deck.



PHOTOS: STUDIO KLV

Iosono's audio processor renders playback for the 64 speakers used in the exhibition. All rooms are equipped with hidden ceiling speakers, guaranteeing a realistic sound experience.

"The challenge was to create a spatial and emotional sound concept that goes hand in hand with the visual information the visitors are taking in. With Iosono's audio processing and positioning technology we were able to create a detailed and authentic sound space," says Aleesa Savchenko, creative director and CEO of Taucher Sound Environments.



THE REAL MARY KING'S CLOSE

To mark its recent 10th anniversary as a visitor attraction, The Real Mary King's Close in Edinburgh introduced a new interactive AV exhibit into its collection earlier this year.

When visitors now walk into the Gallery Room, the static paintings that once hung on the walls have been magically brought to life, thanks to BrightSign media players installed by Saville Audio Visual, as well as creative input from Heehaw Digital.

When the guide walks into the room they press a hidden switch, and after a timed delay their guided tour is 'interrupted' by the talking paintings. These paintings comprise three white canvasses and three Gobo projectors. They display an authentic static image of three character portraits until the switch is activated, and then the characters start to interact with each other in an audiovisual sequence.

The new, atmospheric installation brings Mary King to life for the first time at the Close

The show reel is on a loop and once it plays through each character's piece, it reverts back to the static projection of the characters, ready to be triggered again.

Head of technical development for the Continuum

Group (which runs The Real Mary King's Close attraction), Richard Briggs, says: "We'd already been using BrightSign media players for an exhibit at our chocolate attraction in York [York's Chocolate Story], so we knew what good work-horses they were and how easy they were for the staff at the attractions to use. For relatively little cost, we've been able to create a new and exciting attraction using this simple technology." ●

Senior Manager European Operations



The International Association of Amusement Parks and Attractions (IAAPA), www.iaapa.org, is seeking a Sr. Manager, European Operations.

The Sr. Manager, European Operations will have overall responsibility for IAAPA Europe brand and membership marketing to acquire new and retain existing members. The Sr. Manager will be responsible for the many products and services provided to members in Europe, including but not limited to the educational program at Euro Attractions Show (EAS) and other smaller regional events, webinars, as well as the communication vehicles promoting IAAPA and IAAPA Europe. The Sr. Manager will also be responsible for other EAS activities including registration, seminar planning and overall support.

The successful candidate will need to travel in Europe and should be proficient in English and other European languages.

The IAAPA Europe office is located in Brussels, Belgium so the successful candidate must be a European citizen, have the right to work within the EU, and have 5-7 years of work experience at a management level in marketing or business management. Experience within the attractions industry is preferred.

Interested candidates can submit their cover letter, CV, and salary requirements to: Susan Mosedale, Executive Vice President, IAAPA, Europe@iaapa.org.

Questions about the position should be directed to Susan Mosedale, Executive Vice President, IAAPA, +1 703-836-4800 ext. 766 (United States) or Karen Staley, VP, European Operations, +32 2 609 54 45 (Belgium)

Closing Date for Applications: November 25, 2013

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ENTRY POINTS

Understand your customers better, encourage repeat business and increase visitor spend. The ticketing experts explain how their systems can help achieve this

Kath Hudson, Journalist

Andy Povey

Gateway UK

Operations director

"If I had to give you two headlines for the ticketing industry, I'd say the mobile has killed the kiosk and CRM, which can give marketing teams access to the information captured by the ticketing systems.



The buzz in the industry at the moment is about mobile sites. We launched our mobile webstore two years ago and now have 17 customers signed up, 10 of which are live. Mobile sites have so many advantages over kiosks – operators don't have to buy hardware to sit outside an attraction, which improves the aesthetics and is more cost effective.

Feedback from the Harry Potter Studio Tour shows that people are booking during the evenings, using their iPads. This proves that this technology is driving up admissions by providing a call to action and allowing a speedy purchase.

Mobiles can be effectively used for loyalty schemes. It's hard to encourage people to keep their ticket with them to scan in restaurants and shops, but they always have their mobile phone, so attractions can swipe a barcode to use to analyse customer behaviour.

Our new product, hot off the press, is our CRM/ticketing system, Gateway Insight. We're working with Microsoft Dynamics, which allows anything the customer does on the system to be available on CRM. It's to manage both data and customers and give marketing teams access to data in real time."



▲ New ticketing and CRM systems allow operators to market to visitors prior to arrival

Peter Ferguson

Gamma Dataware

Managing director

"Our systems are developed by listening to clients and potential clients. A large element of our current focus is on driving up revenue and looking at how our software can help attractions do that. The key thing that we've been working on in the last 12 months is how to drive up visitor spend.



Operators want to find out what areas visitors are spending in and profiling visitors, for example to see if different nationalities have typical spending habits. This information allows marketing departments to target campaigns, fine tune offers and use the best channels to reach them.

In response to this, we're building the ability to capture demographic information at admission, with a barcode on the ticket. This ticket is scanned each time the visitor spends money, which is a non-intrusive way of finding out who they are and what their behaviour is.

Attractions are also interested in loyalty schemes and finding ways of driving repeat business, either by creating memberships or offering discounts to incentivise people to return.

We've done lots of work on our members' CRM system, so we're capturing more information than before and analysing it to allow better reporting for marketing teams. More sites are catching onto the concept of fast tracking visitors by sending barcodes to their mobile devices – and so marketing to them prior to their visit."



Blenheim: Memberships are key

Andrew Mellor

Vennersys

Operations and development manager

"Membership systems are an area that attractions operators are becoming increasingly interested in. In response to this, we've worked on a number of membership issues: back office membership wizard, which allows the immediate creation and printing of cards; advanced membership creation at point of sale, including photo capture and card printing; the ability for the consumer to upload a photo when buying membership online; and membership renewal online, with the capability to prompt the customer to consider upgrading their membership.



These developments were driven by client feedback, specifically Blenheim Palace, which migrated more than 300,000 annual pass members into its existing VENPoS system at the start of the 2013 season. Memberships can be linked to promotions to encourage additional secondary spend.

The system has been very effective for Blenheim Palace, as its membership system is a mission-critical system. More than 120,000 annual pass holders are recruited each year and, together with their subsequent visits, they form more than half of the annual visits.

The biggest issue in ticketing at the moment, from an operator's point of view, is encouraging secondary spend and increasing spend per visitor. We'll see further adoption of mobile technologies and M-commerce, with operators using mobile PoS or PDAs for queue busting or fast track entry.

The biggest consumer trend is using smartphones and tablets for advance purchases and interacting with the attraction on site through social media and apps."



David Goldman

Ideal Software Solutions

Founder and president

"Buying tickets through mobile devices and focusing on customers' purchasing habits in order to become more profitable are two major trends currently evident in the ticketing industry.



Consumer purchases made by mobile devices topped \$25bn in the US alone in 2012, and that number will continue to grow each year.

We've created the Season Pass and E-Ticketing to tap into the mobile

trend and allow attractions' operators to increase profits by targeting mobile customers. The E-Ticketing platform enables parks to offer customers a completely cashless experience via smart phone technology.

The debit card and mobile-based Season Pass and E-Ticketing allow park-goers to purchase season passes and single-day tickets online or via smart phone and use either a printable ticket or a mobile ticket stored on a smart phone for access to the park.

Customers can then add cash value to their season passes and tickets via smart phone and use them to make purchases at any POS in the park."

Melinda Arvin

Omniticket Network

Director sales & marketing

"Our latest innovation is the Interactive Turnstile Transformer (ITT), which we created to transform the traditional turnstile into an opportunity to engage guests, rather than an obstacle which guests need to get through before the fun could begin.



Building on our expertise in the market, and with feedback from key clients, we designed a product which transforms almost any turnstile, counter or desktop into an interactive access control solution.

The ITT can be customised, based on each park's requirements and can contain a selection of components, including a guest facing LCD touchscreen, an operator facing LCD touchscreen, a 2D barcode scanner, a magnetic swipe reader, an RFID sensor and a biometric reader.

Hollywood installed the ITT this season and selected a guest facing LCD screen to display its themed graphics, user-defined messages and a series of animated, interactive welcome screens. The park also has an operator-facing

screen to provide staff with the information needed to greet and assist guests. We're currently working with a theme park in Asia to integrate an RFID reader and a magnetic reader into the ITT for the 2014 season.

Another evolving area this year has been online, with a higher level of interaction between theme parks and guests. This begins with an online presence which allows the guest to design their visit before they've left home, with the creation of an online account which tracks ticket and purchases, reserves events and suggests new activities.

This deeper online relationship can be enhanced during the park visit, through the use of a mobile app, which can allow visitors to update orders, add tickets and shows, or find useful information about wait times, rides or show times.

After the visit, the guest can continue their experience with a link to view online photos from their trip, or an easy option to renew passes for their next visit. New parks, such as Wet'n'Wild Sydney, scheduled to open later this year, will use this approach to enhance guest experiences and open up opportunities for the park to build positive guest relationships." ●



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EAG 2014



Organiser Karen Cooke talks us through EAG 2014 and we preview some of the products visitors will be able to see

KAREN COOKE

Organiser, EAG International

What is

EAG 2014?

EAG International is a trading and networking event for the amusements and family leisure sectors.

Held at ExCel in London on 21- 23 January 2014,

buyers, operators and other professionals can experience the latest products and services from 180 companies. EAG 2013 welcomed 5,411 attendees from 59 countries and we're expecting even more next year.



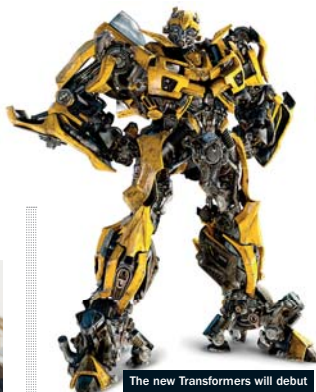
What's new this year?

We've just launched a redesigned website and EAGLive, an up-to-the-minute information service encompassing email bulletins and a portal on our website to release product information. EAGLive, powered by Coin-op Community, uses Twitter, Facebook and YouTube.

What will people will be talking about?

Analysing the previous trading year and the prospects for 2014, the latest product releases and government fiscal and legislative policies.

Also, trends such as taxation, the Triennial Review, and public and private sector investment in coastal towns will be covered in seminars and through the trade associations and other meetings.



The new Transformers will debut

■ Sega Amusements

Making its blockbuster European debut will be Sega's Transformers Human Alliance, an action adventure game which see's players saving the world from the evil Decepticons and will be available in 55in theatre and 42in deluxe cabinets. Visitors to Sega's booth will get to play Plants vs Zombies™ The Last Stand, a video redemption game based on the award-winning video game Plants vs Zombies™.

Sega's product portfolio now also encompasses redemption, novelty, pushers, cranes, sports games, vending, shooting galleries, kiddie rides and 6D motion theatres.



Visitors can meet Sega's zombies



The Peppa Pig range has expanded

■ Kiddie Rides

Kiddy Rides, a trading division of Northern Leisure Group, is a UK independent manufacturer, operator and supplier of children's coin operated rides. At EAG, the company will be showing a number of rides including its Peppa Pig range, which it's increasing with a Peppa Pig carousel.

Kiddy Rides is also launching a ride from its latest license, Poppy Cat, with interactive movement and lead characters from the book series and children's TV show. All Kiddy Rides products are made in the UK.

■ Astrosystems Ltd

Astrosystems Ltd is the European/ UK regional office of Astrosys International Ltd, which specialises in the design, manufacture and distribution of currency handling products, under the Microcoin and Global Bill Acceptors (GBA) brands.



The currency machines suit varied markets

Both the Microcoin and GBA validators are well established products, with a strong presence in markets across the world. The versatility of the solutions ensures a wide range of industries are supported, with the amusement sector perfectly suited to the multitude of benefits provided.



Photobooth I-Go is highly portable

■ Digital Centre

Photobooth developer Digital Centre will be showcasing its new Photobooth I-Go – the most portable in its range. The I-Go is divided in three parts allowing it to be transported in a standard vehicle. The screens and photo strips are customisable, making it perfect for different types of celebrations.

Digital Centre also offers a photobooth with two printers to serve 1,200 customers, two dollar bill acceptors, a credit card reader, Smartphone payment ability and the highest technology in photobooths, such as the QR-Photo Technology, Secure Share, and social networks. The company also has an interactive photo booth with the capacity to accommodate 50 people.

■ PDS Design Solutions Limited

PDS Design Solutions Limited will be displaying its range of 12Vdc LED strip lights. Supplied on 5m reels, these can be cut to size with single colours with different brightness or RGB colour changing strips. These are popular for use within crane operated games, as the speed and colour pattern can be controlled.

PDS's high brightness cool white LEDs are popular for coin pushers, as they can replace older style fluorescent yellow tubes, modernises the equipment and reducing heat.

■ World of Rides

World of Rides will be showcasing its new battery operated models. The coin-operated and pollution-free battery rides are designed to be reliable and profitable and include parent and child twin seats. Customers include operators of seaside resorts, visitor attractions, holiday parks, piers, FECs, zoos, bowling alleys, play centres and farm parks.



Cars have parent-child twin seats



Antrim Carpets use English wool

■ Antrim

Established in 1989, Antrim Carpets designs, manufactures and installs bespoke high grade Axminster carpeting specifically for the leisure and hospitality sector in the UK and Northern Europe. Contracts manager Robbie Taylor says: "We have our own in-house designers and our carpets are woven on our own fully computerised looms to the customer's exact requirements. We use only English wool and produce in extra wide contract widths in five qualities to match varying traffic levels. As far as colours and designs are concerned, the choice is limited only by the customer's imagination."



Kalkomat will unveil a new machine

■ Kalkomat

In operation in the amusement coin-op machines market since 1997, today Kalkomat offers a wide range of strength testers, especially boxing machines (15 models). The company focuses most on quality, attractiveness of the games and service. Kalkomat will be premiering an entirely new machine at EAG 2014.



Tailor your own super-teddy

■ Teddy Mountain

Teddy Mountain is a worldwide, wholesale product provider in the 'Make your own teddy bear' stuffing industry. The concept is simple: children choose an unstuffed toy animal and get it filled using a child-safe stuffing machine or by hand. They make a wish for their new special friend, say the Teddy Mountain promise and get a birth certificate. They can customise their teddy bear with clothing and accessories, such as shoes, sunglasses or sporting gear. ●



EAS offers valuable networking opportunities. The 2013 event started with a spectacular evening at a fairground museum

EUROPEAN ATTRACTIONS SHOW

Lesley Morisetti reports on the trends and issues that were discussed at EAS 2013

EAS 2013 had 390 exhibitors – a record number – and was attended by an estimated 8,500 attraction industry professionals.

While not yet on the scale of the Orlando IAAPA show, there are a number of good reasons for attending EAS. The show provides a rare opportunity to arrange meetings with a large number of people in a short space of time, network and learn from the industry at the seminars during the show.

INDUSTRY TRENDS

The CEO talk, led by Reinoud van Essendelft of Leisure & Culture Consultants and featuring Bart de Boer of Efteling, Miikka Seppala of Tampereen Sarkaniemi Oy, Amanda Thompson of Blackpool Pleasure Beach and Nicolas de Villiers of Puy du Fou, included a debate about the extent to which the industry is recession proof.

While the industry was reported to have performed well so far, there was some concern about the length of the economic downturn and the impact of this on the price sensitivity of some

EAS
Euro
Attractions
Show

markets. With the exception of Puy du Fou, who don't participate in discount promotions, the other parks felt that discount vouchers have become so ingrained in our cultures that theme parks have to participate in promotions – particularly those in markets where competitors are discounting.

Another trend related to potential shifts in consumer behaviour in visiting theme parks. Recent Mintel research in the US was quoted, showing that the proportion of teenagers who consider themselves as regular theme park goers has fallen from 76 per cent to 67 per cent in recent years.

RESORT DEVELOPMENT

Another seminar considered the opportunity for lodging and resort development at attractions. Statistics show this is a growth area, with smaller, niche appeal accommodation offers being added to the themed hotel offers at major parks.

The Zoo de la Fleche's recent development of safari lodges was particularly fascinating. The lodges are set within the themed zones of the zoo and integrated into the enclosures, providing a unique

level of interaction with the animals, including the opportunity to open your bedroom curtain in the morning and come face to face with a white wolf or to eat your breakfast watched over by tigers.

Not surprisingly, the cost of the lodges was high (including providing glass which is strong enough to safely view the animals through) but the lodges have been sold out and the park reported that most weekends in 2014 are already booked up.

EXTRACURRICULAR ACTIVITIES

The Paris show set a new standard for the opening reception with a stunning evening at the Musée des Arts Forains (Museum of Fairground Arts), attended by 1,200 delegates. The museum houses an amazing collection of fairground rides and attractions dating from 1850 onwards, all restored and brought back to life by the owner, Jean Paul Favand, an actor and antiques dealer. All in all, EAS 2013 was an excellent show. ●



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