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Tim Fisher

Village Roadshow's CEO
defies the recession

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Den Blå Planet

Rio Tinto Alcan Planetarium

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NEW



ON THE COVER:
p50, Johnny Cash's boyhood home

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EDITOR'S LETTER

Dealing with protests

In the last few months, I've encountered protestors camping outside a number of attractions, lobbying visitors in the queue lines to try to persuade them to boycott the attractions because of a specific sponsorship tie-up.

Although they've been peaceful protests and sometimes interesting, it's obviously not a good thing for attractions customers to be exposed to this kind of pressure.

The industry attracts protesters for the same reason it attracts sponsors – it's high profile and extremely engaged with its audience. The numbers are also compelling – attractions capture high levels of footfall and do so in a provable and segmented way, so sponsorship spend can be targeted and analysed to a degree that isn't possible with many other types of sponsorships or marketing.

With a growing desire to invest in corporate social responsibility (CSR), corporations view attractions as being on a par with sport as an investment area that achieves CSR objectives, while also being safe in terms of image and powerful in terms of association.

Today, sponsorship is a global business ranging from Disney's tie up with Coca-Cola to Sotheby's sponsorship of MOMA in New York. The industry couldn't run without it and commercial sponsorship of attractions – particularly the arts, culture, museums and heritage – has enabled decades of excellence that would simply not have been possible otherwise.



But times change and sponsorships which were once acceptable to the public can – over time – become less so. London's National Portrait Gallery was once sponsored by British Tobacco, for example, but that kind of arrangement would be unthinkable today.

One of the most famous benefactors ever is the UK's Tate – now a network of four museums – originally made possible by funds from Henry Tate, one of the founders of what later became Tate & Lyle the sugar refiner and processor.

Today, sugar is acknowledged as one of the health scourges of modern times – toxic, addictive and with little nutritional value apart from empty calories. It's one of the major contributors to the global obesity crisis.

But associations between Tate & Lyle and the Tate galleries faded long ago in the minds of the public, so that's one protest that has been rendered redundant by the passing of time.

In such a complex and ever changing situation, it's important the industry keeps all sponsorship deals under review, walking a realistic line between listening to protests and giving them fair and due consideration and robustly defending sponsorship relationships where they feel the accusations are unfair or not born out when tested against public opinion.

Liz Terry, editor, twitter: @elizterry

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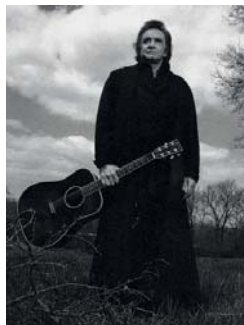
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Two dome theatres are among the highlights of Canada's new Rio Tinto Alcan Planetarium, which shows what's going on in the universe as it happens

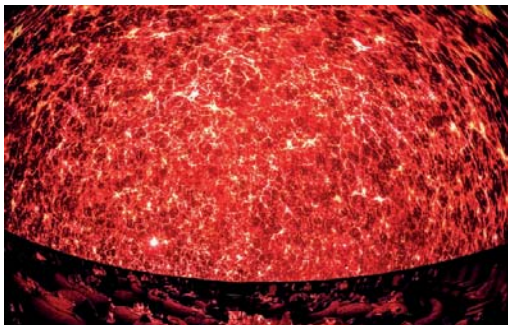
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Web gallery:

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

Theme Park News

Pleasurewood Hills invests £3.5m in themepark

Pleasurewood Hills theme park in Suffolk, UK has opened four new rides for the 2013 season, as part of a £3.5m (US\$5.4m, €4.1m) investment in the attraction.

The refurbishment sees the return of pedalos to Pleasurewood Lake, a family teacup ride at Woodies Tea Party and the Moby Dick ride. Thrill ride Hobs Pit will open soon. Nine new rides have now opened at the theme park since it was bought in 2011 by Looping Holding Group, including The Jolly Roger and the Illusionist Magic Show. Details: <http://lei.sr?a=A5f80>



The hotel has a castle play area and treasure hunt

Legoland hotel opens at California resort

Legoland has officially opened the new hotel at its resort in Carlsbad, California.

The 250-room, three-storey hotel has been developed in response to guest feedback that it takes more than one day to explore the resort.

Construction began in 2011 and the hotel opened in April ahead of its summer 2013 schedule. It caters for children aged two to 12 and their families, offering adventure and pirate room themes. There are more than 3,500 Lego models throughout the hotel. Details: <http://lei.sr?a=y8D9l>

Disney brings in minimum age policy

Disney has introduced a policy whereby all children under the age of 14 must be accompanied by an adult.

If a staff member sees a guest who appears to be younger than 14, without someone who is older, they will engage in conversation to establish whether the individual can be there alone.

The parent or guardian of any under age children will be contacted. The age of 14 was decided as organisations dealing with child welfare deemed this the appropriate age. Details: <http://lei.sr?a=h5N7G>

Etnaland Themepark for Italy

Southern Italy's largest theme park has opened its doors in Belpasso. Adjacent to Etnaland Acquapark, the €50m (£42m, US\$65m) Etnaland Themepark has been created by local entrepreneur, Francesco Russell.

Divided into five areas, the park takes visitors on a historic voyage, including an old haunted school and high tech adventures in outer space. Highlights include the 60m (197ft) Etnaland Tower, which offers great views of the Mount Etna volcano and a rollercoaster through an olive grove. For children, there's the Castle of Ciclopino. There are also river rapid rides in the mix, a prehistoric park and a cable car ride.

The existing waterpark already welcomes 300,000 visitors a year. During the summer, the waterpark will open during the day and



The park is divided into five areas taking visitors on a historic voyage

the theme park from 7.30am until 1am. Rides have been provided by Zamperla, Gosetto, Mack Rides and Intamin. Etnaland said: "An amusement park needs to represent an experience which involves guests and helps them create a world of fantasy, passion and surprises." Details: <http://lei.sr?a=u0y1P>

Planners give Universal extension thumbs up

Construction is scheduled to start this summer on an extension to Universal Studios theme park in Los Angeles, US.

The US\$1.6bn (£1bn, €1.2bn) project is to add 391 acres at Universal City Plaza, which will comprise studio space, retail space, a 500-

bed hotel and a new theme park attraction The Wizarding World of Harry Potter.

The company has agreed to invest US\$100m (£65m, €77m) in transportation and transit improvements to mitigate the project's impact on traffic. Details: <http://lei.sr?a=X9T9m>

TEA expands with an Asia Pacific division

The Themed Entertainment Association (TEA) has expanded its services with the launch of an Asia Pacific Division.

It will be the fourth regional division formed by TEA and joins Eastern North America, Western North America and Europe & Middle East.

An interim board has been appointed to assist with election and installation of a permanent board, with Chris Conte of Electrosonic as interim president.

TEA members working in the region are encouraged to consider running for the initial board and election results will be announced before the Asia Attractions Expo 2013 (IAAPA Asia) in Singapore in June. Interim president Chris Conte said: "The



Interim president Chris Conte speaking at TEA Summit

formation of the Asia Division is an incredibly exciting moment for the industry.

"It recognises the importance of the many companies and talent working across the region." Details: <http://lei.sr?a=n7K2C>

Theme Park News

Merlin reports £1bn turnover

Merlin Entertainments has reported £1bn (US\$1.6bn, €1.2bn) turnover in 2012 and revealed that London is its preferred location for a planned initial public offering (IPO).

At a presentation of its annual results, the attractions operator revealed total visitor numbers were up 16 per cent on 2011 to 54 million and revenue had risen 15 per cent to £1.074bn (\$1.67m, €1.3m).

Speaking to Bloomberg news, chief executive Nick Varney said he made no secret that the group's preference was to list in the UK – a move planned by 2014. However, he said 20 per cent of all Merlin's business is in North America and all options would be considered.

As far back as 2007, Varney announced that the group planned a market flotation but it



Nick Varney, chief executive of Merlin Entertainments Group

has been delayed due to the poor economic climate. Varney said 2012 was the 13th consecutive year the group had beaten its profit target, despite one of the "most challenging years". Challenges included poor climate, the Eurozone crisis and competing with London 2012. Details: <http://lei.sr?a=l7Y2r>

Ambitious Bollywood-style theme park for India

Bollywood-themed rides and special effect Hindu gods will all be part of the fun at India's latest theme park, Adlabs Imagica, between Mumbai and Pune. Aimed at the country's burgeoning middle class market, the park fills a gap in the Indian leisure market.

Attractions include a Wrath of the Gods show in which Hindu deities, furious with humans, cause the ultimate destruction amid temple ruins, as well as a Mr India motion simulation ride based on a 1987 film. Details: <http://lei.sr?a=F4C7u>

Crayola Experience to be unveiled in USA

A new Crayola Experience is set to open by the end of May in Easton, Pennsylvania, USA. The experience will have four floors and 18 different interactive attractions.

From personalised crayon-makers to larger-than-life animated art adventures, the all-new Crayola Experience is designed with the aim of helping children discover the "magic of colour".

Jack Rouse Associates (JRA) is responsible for the planning, design development and project management of the 60,000sq ft (5,574sq m) of exhibits, interactives, games and activities. Throughout the attraction, guests will be able to create digital works of art and interact with them on large projected surfaces,



Visitors will learn how crayons are made in the Crayon Factory

appear in their own colouring page with some of Crayola's characters and learn how crayons are made in the Crayon Factory. A Café Crayola will also feature, with Crayola-inspired foods. Details: <http://lei.sr?a=fic8b>

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Let's talk nanotechnology

MARIA ZOLOTONOSA

NanOpinion, a project funded

by the European Commission, wants people to get involved in discussing nanotechnologies wherever they are. Seventeen partners in 11 countries are joining forces to make this happen.

Ecsite, the European network of science centres and museums, has eight members in the project, all of which are actively participating in taking science to the streets, especially to harder-to-reach groups.

Three huge mushroom-like monitoring stations will travel around more than 30 European locations to find out what people think about nanotechnologies. While interacting with the stations, European citizens



"The project isn't aimed at the typical science centre audience"

will be able to find out new information about nanotechnologies, share their opinions on controversial issues and participate in street labs.

The project is unique in the way it's creating a space for dialogue between the scientific world and citizens in conventional spaces – in other words, the project isn't aimed at the typical science centre audience. Some of the locations where street labs will take place are a jazz festival in Perugia, Italy; a fashion show in Pilsen, Czech Republic; a food festival in Aarhus, Denmark; and shopping malls in Istanbul, Turkey.

One of the monitoring stations will be presented at the Ecsite Annual Conference 2013 in Gothenburg, where participants – science communication professionals from all over the world – will get a chance to examine it and have their say.

The partners will also work with schools and teachers to develop educational materials, which will be offered as a lasting resource on the web. For more information, go to www.nanOpinion.eu.

Maria Zolotonosa, Project Manager, Ecsite

Exploratorium centre reopens

San Francisco's Exploratorium science museum has officially unveiled its US\$300m (€228m, £197m) expansion at Pier 15 on the city's waterfront.

The museum now has 330,000sq ft (30,658sq m) of floor space – trebling the footprint it had at its former home at the Palace of Fine Arts. It will display more than 600 exhibits.

Established in 1969, the museum is dedicated to science, art and human perception, and also offers film screenings, workshops and evening learning events, as well as professional development for educators.

Exploratorium is aiming for its new facility to be the largest net-zero energy museum in the US, if not the world.

The museum will be part of a real-time exhibit, showcasing live energy use and photovoltaic



The 300,000sq ft facility will showcase more than 600 exhibits

production data to achieve a net-zero rating. Other features will include outdoor exhibitions, all-glass building The Bay Observatory and The Fisher Bay Observatory Gallery and Terrace overlooking the city.

For more information see feature on page 30. Details: <http://lei.sr?a=c8V2D>

£38m science centre planned for Oxford

Science Oxford has submitted a planning application for a £38m (US\$59, €48m) attraction, The Magnet – the UK's first integrated science discovery and innovation centre.

The development has been designed by Foster + Partners to be built next to Castle Mound. The Magnet will be used to showcase science and technology expertise from Oxford and the UK.

Its centrepiece attraction would be a world-class planetarium, but it would also include displays, events and lectures promoting all topics and forms of science.

The innovation centre would provide accommodation and support for 50 local high-tech companies.

The Magnet is expected to attract 150,000 guests annually, create more than 100 skilled jobs and generate £128m (£199m, €152m) over the next 10 years for the local economy.

Chief executive of Science Oxford, Ian Griffin, said: "Working together the discovery and innovation elements of The Magnet will provide education, inspiration and support for the long term benefit of Britain's science economy."



The attraction has been designed by Foster + Partners architects

"We're proposing a world-class building which reflects the spirit of discovery and innovation and enhances its historic setting close to Oxford Castle."

Should planning consent be granted – and subject to further fundraising – construction is expected to begin in 2014 with the attraction set to open in summer 2015.

"It will reinforce Oxford's position at the heart of science and innovation while also generating income for the local area," added Griffin. Details: <http://lei.sr?a=noW9n>



3D/4D RIDES AND ATTRACTION FILMS



Museum News

Holland's Rijksmuseum reopens

Holland's Rijksmuseum has reopened after a 10-year refurbishment. Now 80 galleries and 8,000 objects tell 800 years of Dutch history.

The much vaunted face lift has been masterminded by Seville architect Cruz y Ortiz and the galleries have been 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 has been fully reconstructed in a number of key spaces.

Spanning four floors, the museum 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



Queen Beatrix at the celebrations that marked the reopening

many new artefacts are now on show including art, photos, jewellery, fashion and silver.

The museum was officially opened by Queen Beatrix of the Netherlands in one of her last public appearances before her abdication.

Details: <http://lei.sr?a=P3tk>

Motion Pictures museum launches in LA

A new US\$300m (€230m, £195m) Academy Museum of Motion Pictures is being developed in Los Angeles, US, designed by architects Renzo Piano and Zoltan Pali.

The museum, slated to debut in 2017, will span 300,000 sq ft (27,870 sq m).

Located in the 1939 May Company Building on the campus of the Los Angeles County Museum of Art (LACMA), the museum will feature six levels of exhibition and programming spaces.

The plans include more than 30,000 sq ft (2,787 sq m) of flexible exhibition galleries and a 15,000 sq ft (1,394 sq m) landscaped public piazza that will serve as a gathering space for visitors and connect the museum with the LACMA campus.



The 300,000 sq ft facility is designed by Renzo Piano and Zoltan Pali

Interactive family-friendly movie making labs, guided discussions and structured seminars on media literacy and industry-wide topics and feature screenings will be on offer to guests. Details: <http://lei.sr?a=L8h9L>

US\$5.4m revamp for Pennsylvania Lumber Museum

Pennsylvania Lumber Museum is to begin a renovation project which will include a major extension of the current visitor centre.

The US\$5.4m (€4.1m, £3.5m) project, which is a partnership with the Pennsylvania Lumber Museum Associate, is expected to take 14

months to complete and will see more than 7,000 sq ft (650 sq m) being added to the existing 8,700 sq ft (808 sq ft) visitor centre.

The museum highlights the lumber era when white pine and hemlock were the wealth of the nation. Details: <http://lei.sr?a=T4y3b>

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Sharing water safety messages

ALEATHA EZRA

Now the summer season is approaching, waterpark operators throughout Europe and the US are gearing up to welcome millions of guests to their parks. The beginning of the high season is the perfect time for water parks to share key water safety messages with their guests to make them aware of the role they play in staying safe in and around the water and in drowning prevention.

Drowning deaths remain a serious problem. According to the World Health Organization, "drowning is the third leading cause of unintentional injury death worldwide, accounting for seven per cent of all injury related deaths, with



"Drowning is the third leading cause of unintentional injury death worldwide"

an estimated 388,000 annual drowning deaths worldwide." In addition, the Center for Disease Control in the United States estimates that drowning is the second leading cause of accidental death in children under the age of 14.

Fortunately, any waterpark facility can play a proactive role in drowning prevention efforts. There are a variety of water safety events organised to give operators a vehicle to promote water safety and generate positive publicity for their facilities. These include:

International Water Safety Day on 15 May is designed to educate young people in becoming safer in and around the water while spreading global awareness. **The World's Largest Swimming Lesson** on 18 June is an international Guinness World Record™ attempt featuring 25,000 simultaneous participants to convey that loss of life from drowning can be prevented through awareness and training. See p94 for more details.

Aleatha Ezra, director of park member development, World Waterpark Association (WWA)

Ocean Park plans new waterpark

Ocean Park Hong Kong is likely to move ahead with plans to build an all-weather waterpark at Tai Shue Wan earlier than anticipated, thanks to a government loan of HK\$2.3bn (US\$296m, €229m, €196m).

Announced in the financial secretary's February budget speech, the purpose of the loan is to spur on the project and stimulate Hong Kong's tourism industry – one of the mainstays of its economy.

The loan is subject to approval by the finance committee of the legislative council, in a decision to be made within the next couple of months.

The park will have a capacity of 15,000 visitors a day and will include a translucent sweeping roof over water rides and attractions, and a retail, dining and entertainment area. Ocean Park says the water attraction, expected



The project aims to stimulate Hong Kong's tourism industry

to open in the second half of 2017, will diversify its offer and, as a result, encourage longer visitor stays. The development is expected to generate HK\$842m (US\$108m, €84m, €72m) in tourism growth by 2018. Ocean Park opened in 1977 and last year won the 2012 Applause Award. Details: <http://lei.sr?a=k3G8y>

Quassy Park set to relaunch waterpark

The waterpark at Quassy Amusement Park in Connecticut, USA is on track to introduce four new attractions for the 2013 season – nearly doubling the size of the waterpark.

Formally known as Saturation Station, the waterpark has also undergone a re-branding and is now called Splash Away Bay.

Located on Lake Quassapaug in Middlebury, the project includes three huge waterslides: a BulletBowl tube slide and two FreeFall bodyslides, all from Canada-based ProSlide Technology. Quassy will install a 2,000sq ft (186sq m) Vortex Splashpad by Vortex Aquatic Structures, which will be called Fish Pond and provide activities for toddlers.



The park has relaunched with four new attractions for the 2013 season

The BulletBowl is a two-person tunnel tube ride that will drop more than 30ft and travel 210ft. The FreeFall slides will each be 140ft in length and riders will travel at rates of 20ft per second. Details: <http://lei.sr?a=00T2d>

Splash & Spa Tamaro set to debut in Switzerland

Splash & Spa Tamaro, a waterpark and wellness centre, is to open in June 2013 at the foot of Mount Tamaro in Ticino, Switzerland.

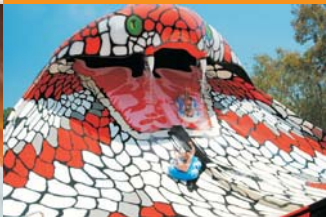
Spanning 10,000sq m (107,000 sq ft), the waterpark will include a wave pool, outdoor heated pool and water slides.

The 3,000sq m (32,292sq ft) spa, designed by Schletterer Wellness, will focus on a wide range of hydrothermal experiences. It will be split into three different areas dedicated to the themes of hot, warm and relax. Details: <http://lei.sr?a=D518A>



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Hawaiian attraction gets revamp

Hawaiian attraction Polynesian Cultural Center has unveiled a US\$25m (€19.5m, £16.5m) overhaul of several attractions, which are part of a five-year enhancement programme that began in 2011.

The rebuilt Hawaii Village, which showcases the islands' traditional way of life, and cinematic experience *Hawaiian Journey* were unveiled in March.

Hawaiian Journey is housed in the centre's revamped theatre and designed to look like a dormant volcano.

The theatre's interior features digital projections, special effects apparatus, theatrical lighting systems and all new seating.

A narrated film showcases the state's landscapes on one of the largest screens in the state and tells the history of the Pacific archipelago. Chief operating officer



The centre is created to look like a dormant volcano

at the Polynesian Cultural Center Alfred Grace said: "Our film crews did a spectacular job capturing Hawaii's diverse landscapes; everything from iconic white sand beaches to alluringly desolate lava flows can be seen in stunning clarity." Details: <http://lei.sr?a=LoX9F>

Mary Rose Museum set for May opening

The Mary Rose Museum will open on 31 May, at Portsmouth, UK in the same dockyard where the Tudor warship was built more than 500 years ago.

The £27m (US\$42m, €32m) museum was scheduled to open in autumn 2012 but was delayed. In addition to the restored ship, which sank in 1545 in the Battle of Solent, the boat-shaped museum will also showcase 19,000 artefacts associated with it.

Artefacts on display will include wooden eating bowls, leather shoes, musical instruments, longbows, two tonne guns and nit combs. The opening will mark 30 years since the hull of the Mary Rose was raised in 1982.



The boat shaped museum will house 19,000 artefacts

The fundraising target was achieved with £23m (US\$36m, €27m) support from the Heritage Lottery Fund. Details: <http://lei.sr?a=xiiin>

Jean-Luc Martinez the new head of the Louvre

The French Culture Ministry has appointed Jean-Luc Martinez the new head of the Louvre, taking over from Henri Loyrette, who has held the post since 2001.

Martinez previously ran the museum's Greek, Etruscan and Roman antiquities department.

In December, the museum opened satellite site Louvre-Lens in northern France at a cost of €150m (US\$196m, £122m). In 2015, it will open its first international offshoot in Abu Dhabi, which is under construction. Details: <http://lei.sr?a=d3M1j>



The Duchess views Audubon's Birds of America

Duchess of Cambridge becomes patron of NHM

The Duchess of Cambridge has been announced as a patron of the Natural History Museum (NHM) in London, UK. It is hoped she will inspire the next generation to conserve the planet's diversity.

The announcement follows the Duchess officially opening the museum's Treasure Gallery in November. Details: <http://lei.sr?a=a803x>

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Training citizen scientists

JENNIFER FIELDS

Visitors to zoos and aquariums

accredited by the Association of Zoos and Aquariums

(AZA) come away from the experience wanting to do more to help the wildlife they just saw up close.

AZA's visitor impact study showed that a majority of visitors left thinking differently about their role in environmental issues. According to the study, messages such as "There's a lot I can do to conserve," and "I am part of the solution to nature's problems," increased significantly as a direct result of their visit. One way in which zoos and aquariums can continue to inspire people after their visit is through Citizen Science – involving visitors in organised, science-based activities.

FrogWatch USA™ is AZA's flagship citizen science programme. As part of its commitment to lead in the global conservation of amphibians, zoos and aquariums have established FrogWatch USA™ chapters and are training members of their communities to collect data about frogs and toads. Volunteers learn to identify frog calls and record the data in a national database.

Amphibians play an important role in the health of ecosystems. As a result of habitat destruction, pollution, climatic changes, and other factors, more than a third of the world's amphibian species are facing the largest mass extinction since the dinosaurs. Data collected by FrogWatch USA™ citizen scientists is important in assessing North American frog populations, including spring peepers, green frogs, American bullfrogs, American toads, gray tree frogs, wood frogs and western chorus frogs.

There are now more than 75 FrogWatch USA™ chapters in 33 states. Trained citizen scientists are not only gathering data, they are more closely connected to the mission of their local zoos and aquariums.

AZA-accredited zoos and aquariums are more than just places for family recreation. Innovative, mission-driven programmes reinforce the message that these facilities reach beyond their doors and make a difference in their communities. For information please visit www.aza.org/frogwatch.

Jennifer Fields,
Communications coordinator, AZA



US\$24m Living Planet for Utah

A US\$24m (€18.3m, £15.5m) Living Planet Aquarium is on track to open to the public in Utah, USA in December this year.

The new 136,000sq ft (12,635sq m) facility, which broke ground last October, will take visitors from the Utah deserts and mountains to rainforest habitats to the oceans.

The new aquarium, officially named the Loveland Living Planet Aquarium, will be located in Draper City at Lone Peak Parkway. It will serve to showcase ecosystems from around the world and how they work together to form one global ecosystem, The Living Planet.

The first floor will feature marine, freshwater and rainforest exhibit galleries; a 400-seat banquet hall; a café; and a gift shop. The Discover Utah Gallery will exhibit freshwater



The 40ft walk-through tunnel will feature a 300,000 gallon shark tank

aquatic species, amphibians and mammals indigenous to Utah.

Premier attractions include the North American River Otter Exhibit and The Ocean Explorer Gallery, which features a 300,000 gallon shark tank with a 40ft walk-through tunnel. Details: <http://lei.sr?a=b1w8e>

Plans for £85m UK wildlife attraction

Wildside World is sharing plans with the local Glasgow and South Lanarkshire communities for an £85m (US\$132m, €101m) wildlife and environmental development.

The Scottish attraction would be opposite the Glasgow Commonwealth Village, and consist of three biospheres: polar, temperate and tropical. It would also have restaurants and a hotel and open shortly after the 2014 Commonwealth Games as a legacy project.

Detailed plans will be submitted in summer, but Wildside World, along with partners Sir Robert McAlpine and Ashley House, is currently canvassing local opinion.

Cuningair Loop has sat derelict for 40 years, but planning permission was recently approved



Three biospheres are proposed – polar, temperate and tropical

for a £5m (€5.9m, US\$7.7m) woodland park.

Steve Minion, director of Wildside World, said: "The consultation is an opportunity for us to share our vision and what it will bring to the region." Details: <http://lei.sr?a=3z4k6>

New Secrets of the Sea centre to launch in Florida

Construction is underway on the Secrets of the Sea Marine Exploration Center and Aquarium, a new US\$55m (€3.8m, £3.2m) marine attraction in Pinellas County, Florida USA.

The new facility will open at John's Pass Village, Madeira Beach this November.

Secrets of the Sea is a 13,500 sq ft (1,254sq m) marine exploration centre housed on two levels of John's Pass Village. The marine attraction and interactive visitor experience combines real-time scientific research and living marine exhibits. Details: <http://lei.sr?a=U61v>



Gallery News

AUS\$30m art gallery reopens

The Tasmanian Museum and Art Gallery (TMAG) has reopened its doors following a AUS\$30m (US\$31m, £21m, €24m) redevelopment project.

The new project involved more than doubling 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 will also offer expanded public programmes, education programmes and new spaces to showcase more of TMAG's state collection. Architectural firm Francis-Jones Morehen Thorp, which was responsible for the design, focused on contemporary architecture which is also sympathetic to the heritage and character of the site and the waterfront setting. The redevelopment focused on the restoration



The design focuses on contemporary architecture

and refurbishment of TMAG's heritage buildings in order to create new and refreshed exhibition spaces.

A visitor entrance was also created that highlights the historic Watergate as a central feature. Details: <http://lei.sr?a=t6e2N>

New art centre set for Vermont Museum

Shelburne Museum in Vermont, US is to open a new Centre for Art and Education that will transform the museum from seasonal to year-round operation.

The eco-friendly centre will create a modern, flexible venue for art and design exhibitions featuring loaned works and touring exhibitions. Designed by Boston-based Ann Beha Architects, the centre will include 5,000 sq ft (4,655 sq m) of new and flexible gallery space for changing special exhibitions.

A new 130-seat lecture and performance space will feature, creating the museum's first dedicated venue for lectures, films and presentations. It will also run educational



The eco-friendly centre is designed by Ann Beha

programmes. In addition, 2,000 sq ft (1,865 sq m) of flexible classroom space will be available. Details: <http://lei.sr?a=R4w6M>

New art gallery for Mexico City

Latin America's largest private collection of art, the Jumex Collection, will have a new home in Mexico City by July.

A 4,000sq m (42,056sq ft) building in the suburb of Polanco will host at least six exhibitions a year, along with the 2,600-strong Jumex Collection, which has been collected by Eugenio Lopez, the heir to the Jumex fruit juice and food conglomerate.

The art gallery will be built next door to the Museo Soumaya, a museum built by telecommunications magnate, Carlos Slim. Details: <http://lei.sr?a=k7r9N>



The museum showcases more than 5,000 works

MOCA endowment trebles to US\$60m

Los Angeles' financially troubled Museum of Contemporary Art (MOCA) has revealed it has nearly tripled its endowment in just two weeks to US\$60m (£47m, £40m).

The MOCA Independence fundraising campaign aims to bring the total endowment to US\$100m (£78m, £66m) to ensure the museum's ongoing independence. Details: <http://lei.sr?a=q4P9W>



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TIM FISHER

A double-dip global recession and high Aussie dollar

hasn't stopped Village Roadshow expanding. CEO Tim

Fisher explains why he always looks on the bright side

Jennifer Harbottle, journalist, Attractions Management

American-born Tim Fisher is a glass half full type. Never mind dwelling on the negative, he likes to see the positive in things and relishes turning a challenge into an opportunity. This kind of can-do approach to business may be typically American, but on Australia's sunny Gold Coast, where he's the CEO of Village Roadshow Theme Parks, he fits right in.

PORTFOLIO

Dubbed the home of the theme park Down Under, the Gold Coast is to Australia what Orlando is to the US. As well as an established MICE market, the beaches and theme parks on the Gold Coast attract many tourists. Fisher's based here, as are five out of eight of Village Roadshow's theme parks. These include Warner Bros Movie World, Gold Coast Wet 'n' Wild, Sea World, Paradise Country and Australian Outback Spectacular.

Overseas, the company owns Wet'n'Wild Hawaii – the first overseas theme park acquisition for Village Roadshow – and Wet'n'Wild Phoenix in Arizona. The company also has three new parks in the pipeline, Wet'n'Wild Sydney, Wet'n'Wild Las Vegas and Ocean Paradise in China.

Fisher is well versed in heading up an operation of this scale. Before joining Village Roadshow in 2007, he was executive vice president of Paramount Parks and Viacom Recreation in the US, responsible for the company's day-to-day operations and capital project



Tim Fisher initially joined Village Roadshow in 2007 to manage US operations

development. It was a role that called for him to test his yield management, capital strategy and cost cutting skills – things that have shaped his management style at Village Roadshow and helped to create a healthy bottom line for the business, now worth AU\$275m (US\$285m, £186.2m, €217m) annually.

ATTENDANCE

So far this year, attendance at the Gold Coast parks is up 20 per cent, with the first half of 2013 showing record

attendances of 2.8 million. First half EBITDA is up nine percent on 2012, despite heavy flooding in Queensland over the summer months. Although pleased, Fisher isn't complacent. "I'm very happy with how the business is performing, but we manage every business unit with the idea that they can improve," he says. "Our more mature parks still have room to grow in terms of food and retail."

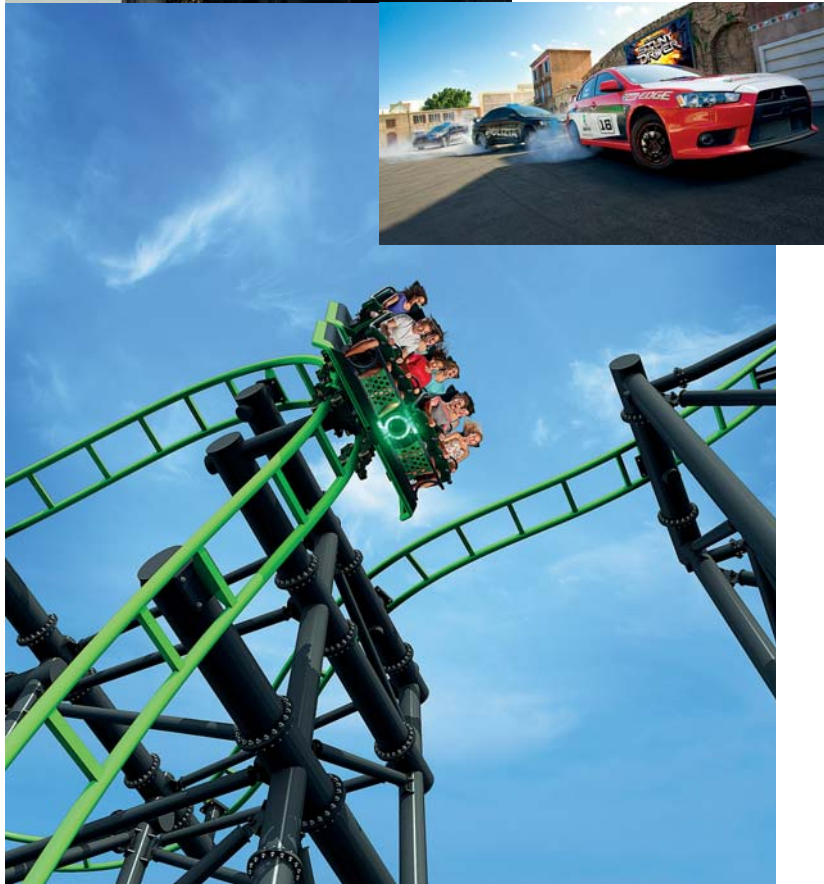
Fisher puts the good figures down to the success of their key business drivers, primarily the VIP annual pass programme. So far, the Gold Coast parks have sold nearly a million annual passes in the first seven months. Fisher says it's the fact they're being bought primarily by consumers in the core and regional markets that makes the difference. "The VIP programme has increased our admissions revenue by driv-

ing up non-holiday performance, which, in turn, drives revenue in non-peak periods and helps our overall costs." He says a successful special events programme for key holidays, such as Halloween and Christmas, has also been good for the Gold Coast business.

Fisher admits that prior to the Global Financial Crisis, the company had already begun the process of shifting its demographic target. "Before, our business was more tourism oriented, whereas now, regional and core markets play a more significant role," he explains. "One of the ways we've been able to grow our profit is by plugging ▶



Warner Bros Movie World is one of five Village Roadshow attractions on the Gold Coast



Sea World on the Gold Coast is soon to be replicated as part of the Ocean Paradise complex in China

- the gaps in the soft part of our schedule with core and regional market visitors from south east Queensland."

PROMOTIONS

As well as theme parks, the Village Roadshow business includes one of Australia's largest cinema operators, Village Cinemas. Through the cinema exhibition group, Fisher says the theme park division can use cinema screens as a media channel to promote the parks, which is a very valuable marketing tool. "As we did at Viacom, we seek to take advantage of synergistic opportunities that other divisions might be able to offer us. The cinemas are an excellent example," Fisher explains.

Initially, Fisher was bought in to manage the US operations for Village Roadshow. Now, his role as the theme park group CEO includes all the businesses under the company's theme park umbrella, which means his day is separated into two distinct parts: US business in the morning where he focuses on the new capital project in Las Vegas; followed by the Gold Coast businesses and Asia, where the Hainan

project's happening, in the afternoon. Fisher admits his management style is hands on, so he likes to be across all the business units in real time. "I enjoy being detail-oriented and I make a point of working with talented people who are very energising to be around.

"I like to think that we've created an environment that maximises everyone's capabilities and potential."

NEW OPENINGS

These capabilities are about to be tested, with the opening of four new Village Roadshow theme park attractions during the next two years. In June 2013, Wet'n'Wild Las Vegas will open, which Village Roadshow will manage, as well as hold a majority ownership in. Fisher's particularly excited about breaking into the Vegas market. "In



Village Roadshow has three Wet'n'Wild parks and two more will open later this year



the US, there are two cities renowned for entertainment – Orlando and Las Vegas,” he explains. “Vegas has casinos and night life, but there’s also a core market of two million – many of whom are families looking for entertainment – that Wet’n’Wild will appeal to.”

Waxing lyrical about the potential in the Sydney market, Fisher says the decision to expand the Wet’n’Wild brand on the east coast of Australia was an opportunity they couldn’t pass up. The \$120m (US\$125m, £81m, €95m) Wet’n’Wild Sydney is under construction and opens at the end of this year.

“Sydney’s one of the world’s great cities, yet there’s no waterpark there. Finding a property in the geographical centre of the city’s population wasn’t easy and we believe that has been one of the barriers to other operators, so



Village Roadshow’s attractions are marketed and promoted through its chain of Village Cinemas

we’re very pleased to have found such a large parcel so well placed in the Sydney suburbs,” he says.

“But as a business opportunity, it has so much potential. There’s little competition from a leisure entertainment perspective, we already have appeal and the power of the Wet’n’Wild brand to leverage, and a core and regional population of five million that’s relatively affluent. It just makes good financial sense for our company to be there. Also,” he continues, “we think the brand exposure for our company that will come from the incremental one million visitors in Sydney can only benefit the Gold Coast parks long term.”

COMPETITION

Ironically, the stiffest competition will come from Merlin Entertainment’s Group, the group Village Roadshow sold its Sydney Attractions business to in 2011. Merlin operates some of the most popular non-theme park attractions in Sydney, including Sydney Aquarium, Wild Life Sydney Zoo, Sydney Tower Eye and Madame Tussaud’s.

Fisher doesn’t seem too worried however. “It’s always good to have other companies in the attractions industry in Australia. Merlin’s willingness to invest here is a sign they have a similar confidence in the Australian market. I have great respect for them as a company.”

Just as Merlin’s targeting the Asian market with its Legoland brand, Village ►

ABOUT TIM FISHER

WHAT ARE YOUR HOBBIES?

My hobby is running and each week I cover around 60km. I feel strongly about trying to stay in decent shape because it helps me manage the stress that comes with this type of job.

I’m also a movie buff. My daughter Carrington and I have been watching movies together since she was three-years-old. Now that she’s 16, there aren’t many new releases that we miss.

WHAT DRIVES YOU?

I enjoy being successful, but over the years I’ve come to learn that the key to professional success is making sure that the people around you are successful as well. True success is always shared.

WHAT’S YOUR FAVOURITE FILM?

The Impossible starring Ewan McGregor and Naomi Watts. It’s about how a family survived the impact of the tsunami.

There are still opportunities in Australia and we'd love to expand into other cities in China as well as Singapore, Malaysia and South Korea

Roadshow will have its first presence in Asia in 2015, with the opening of two theme parks in Hainan, China. Ocean Paradise and Wet'n'Wild are being modelled on the Gold Coast Sea World and Wet'n'Wild operations, which Village Roadshow will design and operate.

In his typical upbeat style, Fisher is feeling positive about the current state of the attractions industry. He believes there are still opportunities in the Australian market, including in Perth,

which is benefiting from a mining boom, as well as Melbourne. "There are clearly opportunities in both cities, so they're the next two cities we'll be looking at domestically," he says.

Further afield, Fisher says the company is looking at more opportunities in Asia. He says they've got their eyes on other cities in China, as well as Singapore, Malaysia and South Korea. "We're looking at other Wet 'n' Wild parks and would love to expand and

develop the brand more internationally. Australian Outback Adventure also has potential in other markets and we're keen to explore the idea of other sea world marine life or animal attractions.

"Like any CEO, there are many opportunities I'd like us to explore as a company," he explains. "But I know my most important responsibility is to help create a vision and plan for the company that will carry Village Roadshow Theme Parks well into the future."

On the Road

VILLAGE ROADSHOW'S UPCOMING PROJECTS



Wet'n'Wild Sydney will feature Australia's largest wave pool

WET'N'WILD SYDNEY

OPENING DECEMBER 2013

With a capital budget of AU\$120m (US\$124.3m, £91.4m, €94.5m), Wet'n'Wild Sydney is Village Roadshow's first foray into the east coast Australian waterpark market. Former Sydney Attractions Group general manager Chris Warhurst is

in charge of overseeing the development of the park. When the company was sold to Merlin, Warhurst chose to stay with Village Roadshow and take up the new role in Prospect, New South Wales. The park will have four tower complexes with multiple slides, two children's water-play areas, and a combination lazy and adventure river on a 25-hectare (62-acre) site. It will also feature a surfable wave attraction, the world's first combination aqua loop and mat racer and Australia's largest wave pool.

WET'N'WILD LAS VEGAS

OPENING JUNE 2013

Tennis players Andre Agassi and Steffi Graf are investors in the new Village Roadshow Wet'n'Wild Las Vegas water park, opening in three months' time. Costing an estimated US\$50m (AU\$48.2m, £32.7m, €38m) to build, Village Roadshow will manage the 41-acre park and invest US\$12m (AU\$11.6m, £7.9m, €9.1m) of its own capital. The park will have 25 waterslides, including the five-rider Hoover Half Pipe slide, the Rattler and a 1,000ft (3,281m) winding waterway.

OCEAN PARADISE AND WET'N'WILD HAINAN, CHINA

OPENING DECEMBER 2015

Village Roadshow is teaming up with Guangzhou R&F Properties to build and operate Hainan R&F Ocean Paradise, a destination theme park on Hainan Island. With Sea World and Wet'n'Wild on the Gold Coast as its model, the theme park will showcase a number of marine animal attractions. The site will also include a Wet'n'Wild style waterpark. The total cost of the project will be around RMB3.5bn (AU\$547m, US\$5.7m, £371m, €431m). ●



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THE BIG IDEA

Question everything, learn by doing, and show, don't tell is the philosophy at The Exploratorium, which reopened in April at a new site, three times its original size



Visitors can take centre stage within a kaleidoscope in the Tinkering Studio, which encourages people to think with their hands

What is the Exploratorium?

The Exploratorium is an internationally celebrated museum based in San Francisco, USA. It's considered the prototype for participatory museums around the world.

Its original home, the Palace of Fine Arts, closed in January 2013. Work began on its new home on Pier 15 on San Francisco's Embarcadero in October 2010 and it opened on April 17, 2013.

What was the inspiration?

The Exploratorium was originally

founded in 1969 by physicist and educator Frank Oppenheimer. He was a gifted experimental physicist and Renaissance man, who worked on the Manhattan project [an American research and development project that produced the first atomic bombs during World War II] with his brother J Robert Oppenheimer, known as the father of the atom bomb.

Oppenheimer was convinced that museums of science and technology were vitally needed, both for the general public and as a supplement for science teaching curricula at all levels. He

was invited to do the initial planning for a new branch of the Smithsonian, but turned it down to work on what he called his "San Francisco project". In 1969, with no publicity or fanfare, the Exploratorium opened its doors with the aim of showing that museums are educational centres.

From teacher professional development, to exhibit development, to the notion of informal science learning outside of schools, the Exploratorium first disseminated its ideas through open source sharing. Oppenheimer's ideas



The Exploratorium's new home is at Pier 15 on San Francisco's Embarcadero



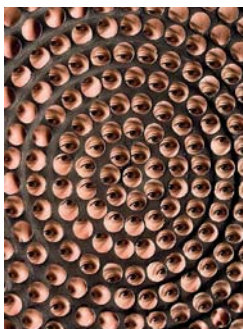
continue to resonate in the museum and science education fields even now, 27 years after his death.

What is its aim?

At the Exploratorium, the goal is to change the way the world learns.

By combining science, art and perception, we've created active, personal explorations of our natural, social and digital worlds.

The Exploratorium's philosophy is inquiry-based and experiential: Question everything. Learn by doing.



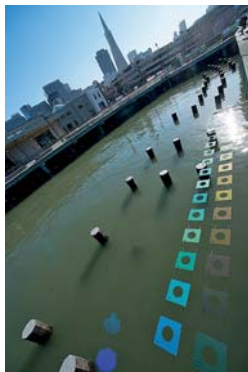
Fun exhibits include (left) a string squirter; (centre) seeing and listening; (right) a drip chamber

Show, don't tell. And the best answer is often another question. By sharing this philosophy and our knowledge and programmes with museums and schools the world over, it has produced some of the world's most innovative exhibits, as well as generations of critical thinkers, with more still to come.



Why was a new site opened?

Principally, we ran out of space to do our work. The new location places the Exploratorium at the heart of the San Francisco waterfront, at the gateway to the City and at the nexus of public transit, radically improving educational access to all. Previously, two out of three teachers had to be turned away from the Exploratorium's nationally recognised Teacher Institute – considered one of the premier professional training opportunities for K-12 science and maths teachers in the Bay Area and



(Above left) Color of Water; (above right) visitors are invited to think with their hands with exhibits such as soap film painting



Refurbishing and seismically upgrading a historic pier that spans the length of almost three football fields over the water was a major engineering feat. Piles underneath the bay had to be driven to a depth of 160ft



► beyond. The new site at Pier 15 is triple the size of its predecessor, meaning there's room for three times the number of teachers who come to learn. The Learning Commons, Learning Studio and Forum provide additional places for the general community and educational professionals to gather and learn.

How does it differ to the original?

The original site was housed in an aeroplane hanger-type hall, which was one long, continuous space. Largely without walls and with no windows to the outside, visitors wandered in a vast, loosely organised collection of exhibits – some likened it to a scientific penny arcade.

The new space, which retains the laboratory feel of the Exploratorium, houses six separate galleries.

For the first time, exhibits are featured outdoors, taking advantage of the city and bay to encourage visitors to observe and engage in their environments like never before.

The new site has the Bay Observatory, designed to allow visitors to explore the science of the bay, the landscape and the human impacts that have shaped the Bay Area. The new Exploratorium also offers an Outdoor Gallery that

includes 1.5 acres of free, public, open space for visitors to enjoy the views and play with participatory exhibits tied to the surrounding environment.

What's the new design?


Designed by San Francisco-based EHDD Architecture, a leader in sustainable design, the new Exploratorium is green inside and out. Taking advantage of the piers' location on the bay, the museum offsets as much energy as possible with a 1.3 megawatt photovoltaic array on the roof, an innovative bay water heating and cooling system and other components that contribute to the Exploratorium's goal of being a LEED Gold, net-zero energy facility – probably the largest net-zero energy museum in the USA, or even the world.

Refurbishing and seismically upgrading a historic pier that spans the length of almost three football fields over the water is a major engineering feat. For the rehabilitation of Pier 15, the asphalt parking lot between Piers 15 and 17 was removed. This provides a civic space on the Embarcadero, with the newly exposed bay taking centre stage down the middle between the two piers – open water traversed by two pedestrian


bridges. Piles underneath the bay had to be driven to a depth of 160ft (49m) to replace, or repair and seismically upgrade, hundreds of dilapidated pilings and the substructure, which date back to the early 20th century.

At the same time, upgrades to the interior of Pier 15, preserving its truss structure, which covers the 820ft (250m)-length of the pier. The interior of the museum has large exhibit galleries, separated by buildings within the main building that are set in from the walls to take advantage of natural light, reducing the energy needed to power the facility during the day. In addition, recycled and low-emitting materials were used, along with certified wood and high-performance glass to reduce heat gain. As a historic preservation, the building was always conceived as a backdrop for the exhibits, not as competition for them.

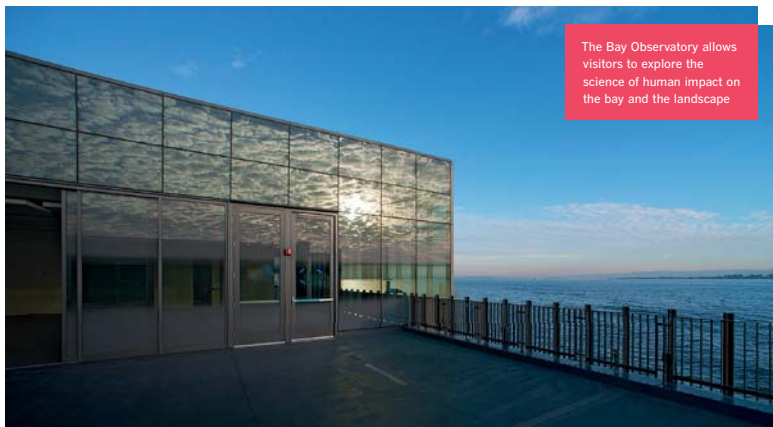
The Observatory Building is the only completely new construction on the piers. It stands at the San Francisco Bay end of Pier 15 and is a mostly glass structure – conceived like an aperture – through which spectacular views of both the city and the bay are incorporated into the exhibits.



Visitors can explore a large-scale relief map featuring Bay Area geology and weather



Geysers of different heights and cycle times are placed together to show how natural geysers work



The Bay Observatory allows visitors to explore the science of human impact on the bay and the landscape



New content areas include: human behaviour and the science of sharing; the beauty and complexity of life through interactive investigations of living organisms; and the opportunity for visitors to create their own exhibits



All aspects of the museum's design and construction contribute to the net-zero energy goal. True to the spirit of the Exploratorium, and the nature of net-zero, achieving such an ambitious degree of energy-efficiency will require monitoring and tinkering over the next couple of years. The entire undertaking will be a real-time educational exhibit, with live energy use and photovoltaic production on public display.

Where's the content sourced?

The Exploratorium creates all its own exhibits and also exports them through Exploratorium Global Studios.

This is an entrepreneurial endeavour that vastly expands the museum's impact, advancing its mission to change the way the world learns. It shares creative capital, expertise, programmes and exhibits in innovative ways tailored to

the specific needs of a project, organisation or government. It works on a wide array of collaborations around the world through partnerships with foreign governments, universities, cultural institutions, businesses, and municipalities.

Does the content differ to the original?

As always, exhibits will retain the familiar homemade authentic quality for which the Exploratorium is famous, but the additional space allows it to venture into new content areas.

These include: human behaviour and the science of sharing; the beauty and complexity of life through interactive investigations of living organisms, fertilisation, zebrafish embryo development or cutting stem cell research; the opportunity for visitors to build, make, hack, create and invent their own exhibits; and the Bay Observatory.

What are the key pieces?

With more than 150 new exhibits and 600 in total, everyone has their favourite. Visitors can taste the salinity of San Francisco Bay; watch an upside-down world in the Camera Obscura; and interact in real-time with invisible life – teeny-tiny plankton that produce almost half the oxygen we breathe.

What's in the outdoor gallery?

Visitors can investigate exhibits about water, fog, wind, rain, daily cycles of the sun, the relationships of humans to the Embarcadero landscape and more.



Large-scale artworks interact with the environment, as well as human scale exhibits, such as Bay Windows.


What are the future plans?


We have control of Pier 17 next door, so can expand in the future. ●




The additional space allows for new exhibits investigating fertilisation, zebrafish embryo development and cutting stem cell research




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Gamma LeisurePOS provides visitor attractions of all types and sizes with a complete end-to-end operational management system from admissions to back office reporting, analysis and accounting. The system's modular approach allows operators to implement any combination of modules to meet their specific requirements. While the integration between modules ensures that operators can easily produce cross departmental reports such as visitor spend analysis.

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DEN BLÅ PLANET

Inspired by the shape of water in endless motion, Denmark's new National Aquarium, Den Blå Planet, is shaped like a great whirlpool, waiting to pull visitors in to see its 20,000 sea animals. The CEO and designer describe the attraction

Dorte Gleie, CEO

What makes Den Blå Planet different?

Physically, it's the size. With 20,000 animals (and 450 different species), 53 aquariums and seven million litres of water, we're the biggest and most modern aquarium in Northern Europe.

Emotionally, it's the way the architecture, the aquarium and the animal habitats come together to create a spectacular experience.

What is its aim?

Primarily, we want to make our visitors care about life in the sea. We also

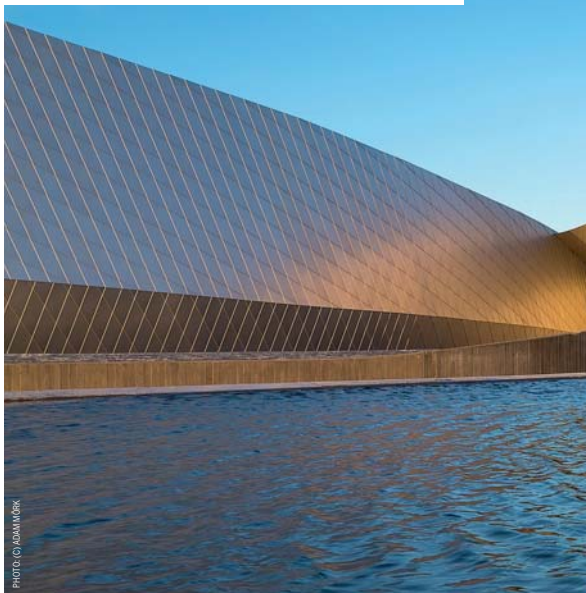


PHOTO: © ADMIN ØRK

aim to attract 700,000 visitors a year and place ourselves within the top five attractions in Denmark.

To achieve this, we've made learning entertaining. We provide fabulous stories about the sea through our fantastic animals, our dedicated people, digital platforms and printed material.

How many visitors have you had so far?

We opened on Friday 22nd March and received 21,000 visitors in our opening weekend. On our busiest day so far, we welcomed 8,000 people.

On Mondays we stay open til 9pm. The target audience is adults without

children and we'll develop this concept further to cater to their interests.

How does Den Blå Planet differ to Copenhagen's original aquarium?

The original aquarium was spectacular when it opened in 1939, but it was worn down. It didn't offer the framework for modern exhibitions or the service level that people expect today. Den Blå Planet is very modern and we'll stay modern by developing and expanding.

We moved 3,000 animals from the old aquarium and added another 17,000. That shows the difference in size and scope between the two aquariums.



CEO Dorte Gleie

PHOTO: PER EICLUND



PHOTO: FERRARIO



- ◀ The largest species on display is a hammerhead shark
- ▼ The building's propeller shape resembles a whirlpool



How did you choose the content?

We wanted to exhibit some truly fascinating animals, such as the hammerhead sharks, which we know will attract visitors, but we've spanned the entire globe and its waters: cold as well as warm; saltwater as well as fresh.

We then worked creatively to develop some fascinating aquariums and habitats, which are designed to highlight the fascinating stories about the different animals and nature's cycles.

What technology have you used?

Digital screens by the aquariums expand the information and storytelling

about the animals. We also offer an app to extend the experience with information, news and games. People can scan barcodes around the aquarium to get specific information relevant to the animals. To date, it's the seventh most downloaded app in Denmark.

We also have dedicated personnel, who tell fascinating stories about the animals, without imposing on our guests. They've been very well received.

What are the environmental features?

A service line was built 1.6km (one mile) into the sea to source water. This means water doesn't need to be trans-

ported and can be circulated. As well as being used in the aquariums, we use it to cool the building. In the Amazonas area, which has a very hot and humid environment, ventilation comes from a natural circulation of air between the inside and outside of the building, rather than using energy-consuming fans and ventilators.

The Danish building laws are among the strictest in the world, so we're very environmentally friendly in comparison to countries outside Europe.

We intend to offset our CO2-footprint as soon as our yearly electricity use has been measured. ▶

AQUARIUM: DEN BLÅ PLANET



Sea lions, bluestreak cleaner wrasse and leafy seadragons are among the amazing creatures living at Den Blå Planet



UNDERWATER PHOTOS: PER FLOENG

PHOTO: BRAD GENTLE/UP PHOTO: MATT FIELD-JACOBSON

Visitors can learn more about the animals by downloading an app and scanning barcodes around the aquarium





PHOTO: ADAM MÖRK

What are the operational challenges?

Sourcing, cleaning and recycling water. We do this by sourcing water from the sea and using an in-house water treatment plant. We purify and recycle the water every hour.

Another challenge is that the architecture and glass of the aquariums have to withstand the pressure of the water. The Plexiglas window in front of our 4.1 million litres Ocean Tank is 46cm (1.5ft)-thick.

Why did you choose 3XN's design?

The architecture is stunning – it has an international level that makes the building an experience in itself. The whole idea of the whirling architecture pulling our guests under water fits the overall story we want to tell – of visiting a wet world that's so different to ours.

In addition to this, the design's organic shapes are built to allow future expansion of the aquarium.

How did you choose the aquarium's location?

After negotiations with the municipality of Taarnby, we were offered this piece of land. It lies in a perfect spot – it's close to Copenhagen Airport and the route of cruise ships and it's easy to reach by Metro, train and car.

What educational programmes do you offer?

We have an extensive educational programme, ranging from pre-schoolers to high school students, and anticipate receiving 50,000 visitors per annum.

Students are able to get close to the animals and examine them and their environment in different ways.

What other amenities are there?

We have a restaurant rooted in the Nordic kitchen, which focuses on fresh fish and shellfish, plus a shop selling souvenirs and toys.

What research and conservation does Den Blå Planet do?

Research is high on our agenda. We work with universities and researchers from Denmark and abroad on a range of projects and are about to begin a survey of the marine animals in the sea just outside of the aquarium. We've also begun a research project with poisonous sea snakes from New Guinea.

Which aspect of the aquarium are you happiest with?

I love the whole feeling of being in the aquarium: it's a unique setting. But the best thing is how well it's been received – everyone else seems to love it too. ▶

▲ The aquarium had 21,000 visitors in its opening weekend. An annual attendance of 700,000 is expected

THE SUPPLIERS

Client: Byggningsfonden Den Blå Planet
Architect and consultant: 3XN A/S
Consulting engineers: Moe & Brødsgaard A/S
Consultant, landscape: HJ Landskab A/S
Consultant, exhibition: Kvorning design & kommunikation
Large constructions: MT Højgaard, Hoffmann A/S, Kai Andersen A/S, E. Pihl & Søn A/S
Aquarium technique, total construction: AAT Advanced Aquarium Technologies
Landscaping: HJ Landskab
Client consultant: PLH Arkitekter A/S

COSTS & SIZE

Costs: DKK730m
(US\$126m, £82.8m, €98m)
Gross area: 10,000sq m
(107,600sq ft), including 5,000sq m
(53,820sq ft) of exhibition space
Outdoor area: 2,000sq m
(21,530sq ft) plus a parking area for 200 vehicles, totalling parking for 575 vehicles

Designing a building that contains seven million litres of water, is comfortable for the inhabitants, can withstand aggressive elements and looks good were the challenges facing 3XN



JOHAN MONTGOMERY/3XN

Kim Herforth Nielson, head designer of Den Blå Planet, 3XN

What is the design?

Our inspiration for the design was water. After weeks of brainstorming, we eventually decided to shape the building like a whirlpool, pulling people into a world beneath the surface of the sea.

As it's located next to Copenhagen Airport, people look down on the roof when they land and take off, so how it looks from above is very important.

From a distance, the building has the same propeller shape that a whirlpool has, but it's an abstract shape that takes on other images, such as a whale, when you get nearer. The façade is covered with small, diamond-shaped aluminium plates, known as shingles, which resemble a fish's scales up close.

What's the internal design?

The inside is the same shape as the outside, so it's like being underwater on the big waves. We want the building to be a part of the experience, so we've spread light on the walls and ceiling to resemble reflections and used sound to add to the feeling of being underwater.

Visitors come into a circular foyer in the centre, then choose a river, lake or ocean to explore in the aquarium.



Head designer Kim Herforth Nielson

Attractions include a large, hot water tank for the tropical fish and the sharks, with a tunnel where visitors can walk through the water.

Most of the areas are fairly dark, as the only light comes from aquariums, but there's a lot of light in the tropical Amazonian forest. Visitors can walk underneath the forest and look into the water to see the piranhas and other fish.

What was your original brief?

To make an interesting, iconic building for the sea elements. Our building has a very clear story – it's not just a big installation for fish.

One of the points in the brief was the ability to extend the building by at least

▲ The sea animals and the tank's contents have been sourced from around the world

The building's façade is covered with small aluminium plates to reflect the sky and resemble a fish's scales up close





PHOTO: ADAM MURK

30 per cent in the future, as at some point the operators will build a large tank for whales. With our whirlpool shape, they can add on to it as much as they want because it never ends.

We won the bid four years ago, so it's been quite a speedy process. We had two years to do the drawings and tendering and then two years to build. It's been a very smooth process.

What were the design challenges?

There are 53 aquariums and displays, containing seven million litres of water and 20,000 sea animals. Also, there's a lot of technology in the building and as many square metres underneath and on top of the public spaces, which are laboratories for cleaning the water and preparing it. It was a big challenge to contain all this within the building.

So much has been done to get the animals' environments right. We've worked with specialists Advanced Aquarium Technologies to ensure they have the correct lighting, amount of water and size tanks.

Another difficulty is that it's a very aggressive environment, with salt water and damp, so it was difficult to make a construction that can be upstanding and sustainable for a long time, both inside and out. The building is on the tip of the water and in winter it's freeze-

▲ Lighting and sound have been used to give visitors the illusion of being beneath the sea when inside the aquarium

ing and very windy, so it's a challenging place to build in every way. It wasn't just about solving each problem physically – we also had to solve them within budget, which was the real challenge.

What's in the outdoor areas?

The design didn't stop with the building – it spread to the outside. Moe & Brodsgaard designed the overall planning and layout of the external areas. The building extends beyond the original coastline, so visitors can look out across the sea from inside the aquarium. There's a lake with carps and sea lions and a 15m (49ft)-high display of the Faroe Islands' bird cliff, which is home to many birds, including puffins. Siki sharks, halibuts and catfish swim in the sea beneath. There are also outdoor play areas, picnic sites and a pond.

Bushes have been planted around the car park, so in time the cars won't be visible. The building is lifted up from the landscaping so it gets all the focus.

What materials did you use?

The building is clad with raw, aluminium shingles, which reflect the sky in the same way water does. When you see

the building from the air it looks white because it reflects the sunlight. From ground level it's the colour of the sky. In the evening, the sunset turns it yellow.

Inside, the décor is very simple concrete and plaster in dark grey so it doesn't compete with the aquariums – the focus is on the fish.

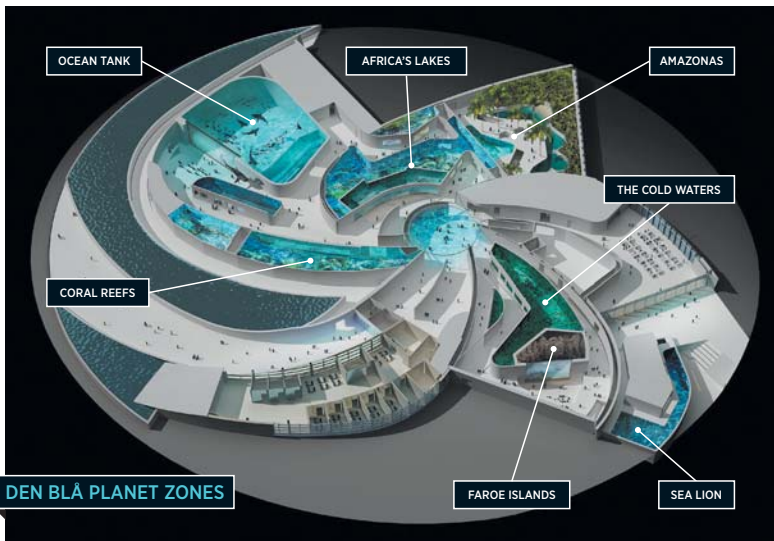
What have been the construction challenges?

Because the building's a morph shape, we couldn't put any radius or diameters into it, so there's no repetition in the shape. We tried many building styles before settling on a fairly traditional method of creating a few frames that have the outside shape, in the same way a wooden boat's built. We then clad it with raw aluminium shingles.

What are you most proud of?

I'm particularly proud of how flexible and unusual the shape is and how it takes up all the different challenges. We borrowed the whirlpool shape from nature and there's a reason nature makes its shapes the way it does – nature is very flexible.

A good building needs a good client. The foundation that sponsored the aquarium has been really collaborative and professional. That's why this project has been a success. ●



Den Blå Planet's seven zones offer a complete experience of life in fresh and saltwater across the earth to entertain and educate about environment and nature

THE CONTENT – FROM THE TROPICS TO THE POLES

OCEAN TANK

The largest aquarium is a four million-litre basin hosting hammerhead sharks, rays, moray eels and hundreds of small fish. Visitors can experience the animals at close range through a 16m- (52ft)-long acrylic tunnel below the water and from a 16m x 8m (52ft x 26ft) amphitheatre.

AFRICA'S LAKES

Showcasing the diversity of life in Africa's greatest lakes – Victoria, Tanganyika, and Malawi. The aquarium's granite rock, sand, rock and canoes have been selected and collected in Africa. In addition to colourful fish, visitors can see dwarf crocodiles, sump turtles and the big Nile crocodile.

CORAL REEFS

This huge aquarium displays colourful fishes of many species living in and by the corals. The variety of animals are separated into four aquariums, which are invisible to the human eye. In the centre are the living corals, on either sides are coral eating fish and at the back are reef predators, such as bass, Napoleon fish and sharks.

FAROE ISLANDS

A 15m (49ft)-high display of the Faroe Islands' bird cliff is home to puffins, siki sharks, halibuts and catfish.

SEA LION

Outside the Blue Planes, a lake features carp and sea lions, which can be viewed both inside and outside.

AMAZONAS

The world's longest river, the Amazon, holds an incredible wildlife, which is on display in the large rain forest hall. As well as free-flying birds and butterflies, the rain forest hall has four large aquariums, which can be looked at from both above and beneath to see giga arapaimas, red tailed catfish and a cousin to the piranha, the omnivorous pacu. Europe's largest colony of 3,000 piranhas, plus a male and female anaconda, inhabit the area close to the great waterfall.

THE COLD WATERS

Sea animals from the cold environments around the planet are featured, including a school of herring. ●



The coral reef is protected from predators with 'invisible walls'



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THINKING INSIDE THE BOX



PHOTOS: MARK KNIGHT PHOTOGRAPHY

What is the Perot Museum?

The Perot Museum of Nature and Science opened in Dallas, Texas, USA, on 1st December 2012. We believe it's the next generation of nature and science museums.

Covering 11 storeys and housing 11 galleries and a 3D theatre, the building is a large cube floating over a plinth. It's designed to inspire awareness of science through an immersive and interactive environment that actively engages visitors.

Conceived by Thom Mayne of Morphosis Architects in collaboration with Talley Associates, the plinth is landscaped with an acre of rolling roofscape comprised of rock and native drought-resistant grasses that reflect Texas's indigenous landscape and demonstrates a living system that will evolve naturally over time.

The cube is rotated several degrees off the city grid, so is visually arresting from a distance. The body of the cube is pierced dramatically by a 150ft (46m) glass prism encasing the building's 54ft (16m), continuous-flow escalator.

The building's getting most of the attention, but we're an institution that's existed for more than 75 years and we're continuing our mission of inspiring minds about nature and science.

How do you achieve your mission?

Anywhere you live in the world, the global challenges that are driving our health and economy, such as energy crisis, water challenges or disease, will

Man meets nature at the \$185m Perot Museum of Nature and Science. Nicole G Small, Eugene McDermott chief executive officer, explains why it's the next generation of museums

eventually be solved by science. We want to continue to engage our public by making them more science literate and encourage our children to pursue careers in maths, science, technology, science and engineering. Then they can go out there and become the next Nobel Laureate, or at least thought leaders in their field, and solve many of the problems that our world is currently facing.

To achieve this, we've picked 11 galleries in which to tell those stories. Woven into those stories are educational opportunities for people to learn about the different areas of science.

For example, instead of a physics or maths hall, we have a Sports Hall where visitors learn about anatomy, physiology, nutrition, the human body and physics – there are so many science lessons you can teach through sport.

The Being Human Hall focuses on biology and the technology we use to better understand the body and learn about ageing and the brain.

The idea is that people will be drawn into a hall, each of which has between five and 10 disciplines of science. It's a more integrated sciences approach than other museums. One of the challenges is to make science fun, engaging and interesting. People often think science is something that happens in a lab, but science is everywhere. We're helping people understand that science is part of their everyday lives.

What's the content?


The 180,000sq ft (16,720sq m) building has 11 permanent halls; a gallery for temporary exhibitions; six learning lab classrooms; a 3D, high definition theatre; an auditorium; and guest amenities including a café and retail store.

How were the contents sourced?

This is one of the things that we're excited about with this new level of museum – we've levered content expertise from all sorts of people. We had help from Nobel Laureate's, the local universities' scientists and appropriate corporation partnerships. For example, for the Texas Instruments Engineering and Innovation Hall, we were able to source content from thought leaders in this sector and leverage that into creating terrific exhibits.

How did you choose the design?

The building is the 12th exhibit. We needed it to be a prime example of where man meets nature, so had a



A 150ft glass prism
encases the building's
54ft continuous-flow
escalator, which stands
out against the night sky



(Top) the Discovering Life Hall; (bottom)
T Boone Pickens Life Then and Now Hall

THE BUILDING IS THE 12TH EXHIBIT. WE NEEDED IT TO BE A PRIME EXAMPLE OF WHERE MAN MEETS NATURE, SO SELECTED A DESIGNER, RATHER THAN A DESIGN, WHO COMPLETELY UNDERSTOOD OUR MISSION

competition to select a designer, rather than the design – that process came later – to ensure we'd be working with someone who completely understood our mission. We picked Thom Mayne because he's incredibly innovative and inventive. We liked his choice of materials and the fact that he was a professor.

His design was inspired by nature. Different geologic formations are reflected in the pre-cast concrete exterior and the landscape design represents many eco regions around Texas.

The living roof is a one-acre water collection system. We've just been called the greenest building in Texas, which supports our environmental aims. Everything about the building represents our mission.

For the interior, we looked at great museums all over the world to get ideas about the type of place we wanted to create. We worked closely with three exhibit design firms – Amaze Design, Paul Bernhard Exhibit Design and Associates and Science Museum of Minnesota – to create this concept.

How is the museum sustainable?

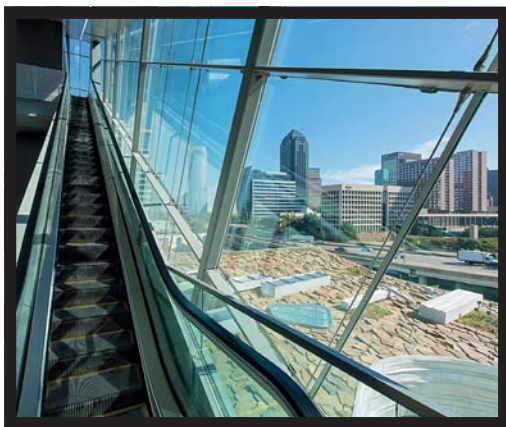
The building is a teaching tool about sustainability. The landscape design, by Talley Associates, serves as an extension of the building design and includes indigenous plant species. It's integrated with the ground floor lobby and café spaces via the plaza areas, providing a seamless merger between the natural landscape and artificially-made environment of the building.

Other environmental elements include a rainwater collection system filling 50,000-gallon cisterns to supply the irrigation system; solar-powered hot water heating; and material choices emphasising recycled and locally sourced materials. We also built on a former Brownfield site.

We have three green building certifications: LEED (Leadership in Energy and Environmental Design); Green Globes; and Sustainable Sites Initiative.

What have been the challenges?

Coordinating everyone could be a challenge at times. We had so many great



▲ The glass-enclosed escalator overlooks downtown Dallas

partners with different and wonderful ways of thinking. Working with all these vendors allowed everyone to push each other's thinking, which resulted in a tremendous project that came in on budget – and we were actually able to open a little earlier than planned.

Now that we're open, the challenge is coping with the volume of traffic. It's more than we'd expected – we've had 350,000 visitors since opening on 1st December – so we're having to adjust our guest service and our operations to make sure we can accommodate that number of visitors and still provide a really positive visitor experience. We can house about 2,000 people at a time and over the course of the day can have up to 10,000 visitors. This can become a challenge when people stay for five or six hours, which some do. However, this is a good problem to have.

How is the museum funded?

The entire US\$185m (£122.5m, €145m) was raised privately from individuals and corporations. The museum is named after Margot and Ross Perot,

thanks to a \$50m (£33.1m, €39m) donation from their five grown up children. The Perots are a long-time family in our community and have been incredibly philanthropic over the years. We had a connective with them in a variety of ways and were fortunate enough to have the opportunity to take them to see the Houston Museum of Natural Science. They were excited about envisaging what a science museum could be. Mrs Perot had been a teacher, so has a great appreciation for education, and Mr Perot founded multiple technology companies, so their children felt this was a wonderful way to honour their parents.

We're incredibly lucky to have such wonderful partners, many of whom we've been able to thank by naming sections of the museum after them. An endowment has been created for the museum's upkeep.

What's the education programme?

We worked closely with teacher advisory committees, who helped us determine the content for the exhibit hall as well as the curriculum for edu-



PHOTOS: MARK KNIGHT PHOTOGRAPHY



▲ (Above left) Midi Sound Studio in Texas Instruments Engineering and Innovation Hall; (right) the Expanding Universe Hall

► cation programmes. We've identified where we think the biggest gaps are in science learning and combined that with what the teachers said they needed help with in the classrooms to create a set of curriculum for children of all ages. We start at six-months-old and go up through high school and college, plus we have adult programming.

We've sold out all of our school programmes for the year, so they've all been well received. Our first social science evening for adults sold out for 1,500 people in a few days. The sleepovers for kids are also popular.

What's Campaign for Excellence?

We deduced that successful institutions continue to focus on long-term operational excellence. Having capital to do that was important. We identified six areas that we need to focus on: operations excellence; temporary exhibits; innovation; research and collections; and endowment. We decided to continue raising funds to support those areas, so that the long-term operation continues to have the necessary capital to provide excellent programmes.

It's progressing well because we were able to meet our fundraising challenge for the project a year early.

What are the future plans?

We're focused on innovative, engaging programming right now. As for physical assets, we've designed the building so that we can double the square footage. At some point we'll commence to phase two, but we're not quite there yet.

What does the museum mean to you?

When you start at the beginning and go through the planning, you can only hope what it might bring to people.

I believe we're changing lives and that one day there will be a Nobel Laureate who says they were inspired at the Perot Museum. ●

THE EXHIBITION HALLS

Moody Family Children's Museum

Aimed at children under five. Highlights include an environment mimicking the Great Trinity Forest, child's-size replicas of the Margaret Hunt Hill Bridge, Reunion Tower and the Dallas Farmers Market. Other attractions include water play tables, a gazebo-enclosed baby and toddler park, an art lab and an outdoor dino dig.

The Jan and Trevor Rees-Jones Traveling Exhibition Hall

The 7,500sq ft (700sq m) space is designed to properly present and preserve artefact displays.

Discovering Life Hall

Uncover stories of the biosphere with interactive games and dioramas, naturalist activities, displays and taxidermy that reveal unique stories associated with biodiversity, evolution and Texas ecology.

The Rees-Jones Foundation Dynamic Earth Hall

Experience an earthquake, touch a tornado, broadcast a weather forecast and explore extreme Earth events within controlled safety.

Texas Instruments Engineering and Innovation Hall

Build a better building, program movements in a 3D animation lab, create music in a sound studio and design and build a robot to race through a maze, pick up objects or compete with other robots.

Sports Hall

Explore the body in motion by throwing a ball, turning cartwheels or trying to outrun a Tyrannosaurus rex.

Tom Hunt Energy Hall

Take a virtual trip deep underground to explore a drilling rig from the inside out and discover how fossil fuels and alternative energy sources are playing a powerful role as global demand for energy is on the rise.

Expanding Universe Hall

Take a 3D-animated journey through the solar system

T. Boone Pickens Life Then and Now Hall

See the first installation of the Alamosaurus and the new species Pachyrhinosaurus perotum, discovered in Alaska

by the Perot Museum's Anthony Fiorillo

Lyda Hill Gems and Minerals Hall

Highlights include a 6ft (1.8m)-high, 1.5-ton amethyst, grape jelly geode that can be opened and closed with a large hand-wheel and Mexico's Cave of Giants – home to the largest natural mineral crystals ever found, some up to 40ft (12m)-long.

Being Human Hall

Scrutinise slices of a human specimen, record the electrical activity of a heart and use brain waves to launch a Ping-Pong ball.

Rose Hall of Birds

Take to the air via a full-body flight simulator and discover the links between dinosaurs and modern-day birds

The Hoglund Foundation Theater

The Perot Museum has a three-year multi-film deal with National Geographic to show and debut all NatGeo film products. The museum opened with *Sea Monsters 3D: A Prehistoric Adventure* and *Meerkats 3D*. For spring break, *Wildest Weather in the Solar System 3D* is showing

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RESTORATION

Kathleen Whyman, managing editor, Attractions Management

PHOTO: ELIZABETH WIEDOWER



The house was lifted from its site so the soil could be replaced to prevent future damage

HOME

IMPROVEMENT

What is the Historic Dyess Colony: Boyhood Home of Johnny Cash project?

We're preserving the home of Johnny Cash and putting it in a much larger social context of the New Deal era of the 1930s and a federal government social experiment to get out of work farmers back on their feet.

It's not just a shrine to Johnny Cash, it's the story of what life within the Dyess colony was about and how the Cash family went from being an out of work farm family to making a living and eventually owning their own land.

How is this being done?

The project is a partnership between Arkansas State University, The National Trust for Historic Preservation and the City of Dyess to revitalise the town by focusing on heritage tourism opportunities. It includes restoration of several historical buildings in the town centre, or colony, as well as the Johnny Cash boyhood home.

The Dyess Colony was an agricultural resettlement community during the New Deal era in the 1930s. It was one of President Roosevelt's projects to get out-of-work farmers back on their feet. The government acquired 16,000

Music legend Johnny Cash's boyhood home has been restored to tell the story of life in The New Deal era. Dr Ruth Hawkins reveals how the project aims to revitalise the area once again

acres of land and divided it into 20- and 40-acre farmsteads. They recruited 500 colonist families, who were out of work and on welfare, to come and live and work on this land and eventually acquire the land by paying back the government from their crop proceeds. Johnny Cash's parents, Ray and Carrie, were among the colonist families that were recruited. They came here when Johnny was three-years-old.

The site originally included a colony centre, with a two-storey administration building for all the federal offices, a community centre, which later burned down, a theatre and a Co-op store.

The administration building still exists, which we at Arkansas State University own and are restoring. The cinema was built in 1947 and has deteriorated except for the front façade. We're propping it up and will rebuild it, keeping the historic façade and restoring it. The Co-op store also burned down and eventually we'd like to rebuild that too.

As director of Arkansas Heritage Sites, I'm the overall project director. I supervise the students that work on the project and work with the contractors and the people doing the restoration.

What was the inspiration?

Many people have been interested for a long time in the fact that Johnny Cash came from this small town – it has less than 500 people living here. We were inspired by the fact that even though there's nothing to do here, people constantly drive by this property to look at it. We know, from messages they've left, that they come from all over the world.

But when people drove by, they saw a dilapidated, sagging house. We didn't want them to come away with the impression that he lived in that condition because he didn't – he lived in a brand new house that had just been built by the government. For years we've



Cash is considered
to be one of the most
influential musicians
of the 20th century



WE WORKED WITH THE CASH FAMILY ON THE FURNITURE AND PICTURES. WE WANT IT TO LOOK AS THOUGH THEY'VE JUST WALKED OUT OF THE DOOR TO GO TO CHURCH

► wanted to restore it to what it was like when he'd lived there. The problem was that the house was in private ownership and the owner didn't want to sell. But three years ago he began talking with us at Arkansas State University and we were able to acquire it.

What will the visitor experience be?

The administration building will house a museum with exhibits detailing the Dyess colony and what it was about. It'll show the life of a typical colonist family, using the Johnny Cash family as an example, and how growing up in Dyess impacted Johnny Cash and his music. Songs like *Five Feet High and Rising* are about the 1937 flood in the Dyess area, while *Picking Time* is based on his experience in the fields. All of his music that focuses on family values and growing up poor will be reflected in exhibits.

The theatre building will become a visitor centre. Movies and orientation films will be shown and we can hold special events.

The house will be furnished exactly as it looked when the Cash family lived there. We're focusing on the period from 1935, when they moved in, to 1950 when Johnny left to go into service.

In time we'll reconstruct the farmstead buildings that used to be at the Cash home – the barn, smokehouse, outhouse and corncrib – and create a walking trail to connect the houses with the colony centre, which is a mile away.

The project also involves acquiring additional land for visitor services, parking and rest rooms. It's a massive plan and takes time to implement.

What work has been done so far?

We acquired the administration building in 2010 and the Cash's house in April 2011. We've completely restored the outside of the administration building and are now restoring the interior.

PHOTO COURTESY OF DANNIE CASH YATES



Many of Cash's songs are based on his experiences in the fields and growing up in a poor family

We've restored the Johnny Cash house and are landscaping the exterior and furnishing the house. We have the original piano, which is a key piece of furniture as music was so important to the family, and a few smaller items. The original pieces will be displayed at the museum and we'll put replicas in the house. The house is so small – less than 1,000sq ft (93sq m) – that with a lot of visitors it'll be very difficult to protect any original furniture.

We've worked with the Cash family, who described the furniture and pictures on the walls. We've made a virtual model of the house and the furnishings and forward photos to the family to critique. They'll say: "Yes, that's what it was like," or: "No, that pot bellied stove was a little more oval," or "The sofa was a darker blue than you have it." When

we're finished, we want it to look as though the Cash family has just walked out of the door to go to church.

How will you protect the home?

That's going to be a major challenge because the house is so small. We'll have to limit the number of people who are in there at a time. The tours will originate out of the administration building and there will be about 15 people in a group. It was built of wood that was milled in the area and is a solid house, which will wear well.

It was never painted or decorated inside, so the main thing we need to protect is the linoleum flooring, which two of the rooms still have from the 1930s. We'll put something over those where people are walking, so they can see the flooring, but don't wear it out.



THERE'S NO LODGING AND ONLY ONE RESTAURANT. IT'S UP TO THE COMMUNITY AND THE SURROUNDING AREA TO PROVIDE THESE OPPORTUNITIES



Tours will last about 30 minutes, as the house is so small, but we expect people to spend longer at the exhibits.

When does it open?

We hope to open the first phase in spring 2014, with the exhibits in the administration building and the Cash house. When we finish the administration building, theatre, out buildings and walkway depends on how our fundraising goes – hopefully within three years.

What are the costs?

The project is costing about \$3.2m (£2m, €2.5m). At this point we've raised \$1.7m (£1m, €1.25m).

The Arkansas Natural Resources Council, which gives grants to state agencies for restoration projects and preserving state owned properties, has

(Top and bottom left) much of the house has been restored; (bottom right) the original linoleum flooring

given us three grants totalling \$1m (£653,000, €765,000) for restoring the administration building. Our annual Johnny Cash music festival has raised \$300,000 (£196,000, €229,500) for the house. We've just received a grant for \$100,000 (£65,300, €76,500) from The National Endowment for the Humanities and have had contributions from private individuals.

How many visitors are expected?

We've looked at visitor numbers to the Elvis Presley boyhood home in Tupelo, Mississippi, which is comparable, as

both sites represent the very humble roots that two major music icons came from. We're projecting 30,000 a year initially, increasing to 50,000. We're in a very rural place, so don't have big crowds of people – they have to be making a specific trip to get here.

What will the project offer to visitors and the area?

We hope to work with the community to develop other experiences for visitors. It's a small community, so there's no lodging, only one restaurant and nowhere to spend any money. It's up to the community and the surrounding area to provide these opportunities.

We're looking at creating experiences that will focus on the 1930s era. For example, when the Dyess colony was in operation, it had many communal

RESTORATION



The original front remains of the theatre, which is being rebuilt



services, including a cannery where the women would can their fruits and vegetables and then distribute them to the families. We plan to develop an experience where visitors are taught how to can and preserve fruits and vegetables and then take them home.

For the people in the area, the project is going to be a major economic benefit. The town is small and shrinking, so this is its hope for survival. We expect it to create more than 100 new jobs in the area and bring in \$10m (£6.5m, €7.6m) annually in visitor related expenditures. They won't be spending all this money in Dyess, but for all of north east Arkansas, it's going to have a major impact, as people gear up for the lodging, food and retail opportunities.

How did Arkansas State University become involved?

Through our Arkansas Heritage Sites programme. We also own the Hemmingway-Pfeiffer museum in Piffot, Arkansas, which is where Ernest Hemmingway did some of his writing, and the Southern Tennant Farmers museum in Tyronso, Arkansas, which is where the Southern Tennant Farmers Union was established in 1934. It was the first agricultural union that had both black and white farmers in the same union. It also had women in leadership positions, which was highly unusual.

We also own the Lake Port Plantation in southeast Arkansas. It's the last remaining antebellum [prior to the American Civil War] plantation home on the Mississippi River and still has many of its original finishes.

All these properties are nationally significant. The sites serve as educational

ABOUT THE NEW DEAL

The New Deal was a series of economic programmes enacted in the United States between 1933 and 1936. They involved presidential executive orders or laws passed by congress during the first term of President Franklin D Roosevelt. The programmes were in response to the Great Depression and focused on what historians call the Three Rs: Relief, Recovery and Reform. Relief for the unemployed and poor; recovery of the economy to normal levels; and reform of the financial system to prevent a repeat depression.

laboratories for our students, as well as being open to visitors, and are an economic catalyst in their area.

What have been the challenges?

The major one is that the entire area of Dyess is made up of gumbo soil, which has clay in it and is very sticky. It moves and shifts when wet and creates major cracks and crevices when it dries. Because of this, the houses are unlevel. That's one of the reasons the Johnny Cash home looked so bad – it was sagging in the middle and out of kilter. To fix that, and prevent it happening again, we moved the house off the foundation, dug a 7ft (2m)-deep trench where the house sat, removed the gumbo soil and repacked it with a better draining soil. Then we created a 2ft (0.6m)-wide concrete foundation around the perimeter.

The house sits up on triangular piers, which form the foundation of the house. We didn't want to destroy that historic look, so once we'd put the 2ft foundation in, we hid it with dirt, set the concrete piers back on top of the concrete foundation, then moved the house back. We spent a lot of money on things you can't see, but that were necessary to save the house from being damaged and shifting in the future.

The house sits on a county road, so local traffic goes by. Ideally, to protect the house, we'd like to close it off, so you can only access it on tours from the administration building, but that's not possible, so we need to find a way to handle the traffic situation.

Also, we're being told to pave the road, but we don't want to, as that's the gravel dirt road that Johnny Cash walked down to go fishing or to school. We're looking at how to accommodate a major increase in visitors while maintaining the historic character of the property and the area around it.

How will the experience be developed?

One of the advantages of the project being associated with our Heritage Studies PHD programme is that we want to continue to develop and offer educational programming. As well as the cannery, we plan to do special programming, workshops, seminars and educational programmes. I envisage showing documentaries about all the different aspects of the era.

The project isn't a shrine to Johnny Cash: it's about music, the 1930s, the Depression and The New Deal. All these subjects give us many opportunities for developing new experiences. ●



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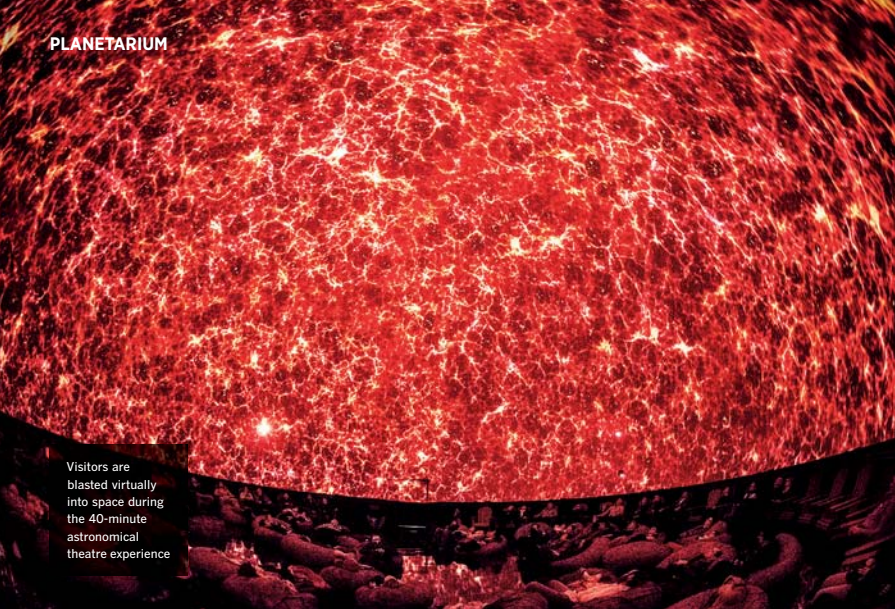


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Visitors are blasted virtually into space during the 40-minute astronomical theatre experience

THE SKY AT NIGHT

Rocket into the universe or relax under the stars on a riverbank at Canada's new \$48m planetarium, Rio Tinto Alcan. Astronomer Pierre Chastenay describes the experience, which opened in April

Kathleen Whyman, managing editor, Attractions Management



Pierre Chastenay

WHAT IS RIO TINTO ALCAN PLANETARIUM?

Rio Tinto Alcan Planetarium opened in April and is one of four entities under the umbrella of The Space For Life. The other sites are the Montreal Biodôme, Botanical Garden and Insectarium.

We've created one of the largest science museum complexes in the world, which is something to brag about.

Together, the biodôme, insectarium, botanical garden and planetarium form a place where nature and science are honoured – a Space for Life. It's a participatory movement in which communities are invited to participate. It's also a commitment to helping people

to better understand and protect our planet's biodiversity.

The previous planetarium, which closed in October 2011, was in downtown Montreal. It was almost 10km away from the other sites, making it very difficult for people to visit the four museums in one day. Now they're all in the eastern part of the city of Montreal, near the Olympic Stadium.

Together, they already have almost two million visitors a year and we're expecting that to increase following the opening of the planetarium. Visitors can buy one ticket, which is valid for two days, and go to the four different museums at their own pace.



▲ Two metal cones, positioned above the two theatres, point towards the sky and resemble telescope tubes from a distance

ALL PHOTOS THIS SPREAD: ESPACE POUR LA VIE DANIEL CHONVIERE

A live astronomer talks
visitors through a 40-minute
journey around the universe



The fulldome video technology allows us to travel anywhere in the universe to look at whatever we want to see. Every show is different because it's driven by what's happening on a day to day basis

WHAT'S THE DESIGN?

It's a beautiful building. Two metal cones, which look like telescopes tubes from a distance, point towards the sky and are located above the planetarium's two theatres. Overall, there's 4,000sq m (43,000sq ft) of space for exhibits, classrooms and function rooms.

The basement links the planetarium with the biodôme, so visitors can walk from one to the other without having to go outside. That's a big plus for our visitors, especially school groups and senior citizens.

WHAT'S THE CONTENT?

We have two 18m (59ft) dome theatres – most planetariums only have one, a

multimedia theatre and an astronomical theatre. We use fulldome video technology to put images on the dome in the multimedia theatre. The dome is a little more than a hemisphere and goes down to 1m (3ft) from the floor. When visitors walk into the theatre, they're completely immersed in the image. The theatre doesn't have a centrally positioned optomechanical star projector, so this gives us a whole new flexibility for the kind of presentations we can have.

Unlike a traditional planetarium, the multimedia dome has a level floor and doesn't have fixed seating, so we can use the space for temporary exhibitions, multimedia shows, dance displays and theatre presentations.

The second dome is the astronomical theatre. It's more traditional and has an optomechanical star projector in the middle, which was built by Japanese company Konica Minolta to our very exact specifications. We project the sky

onto the dome and show the stars in the most pristine conditions possible.

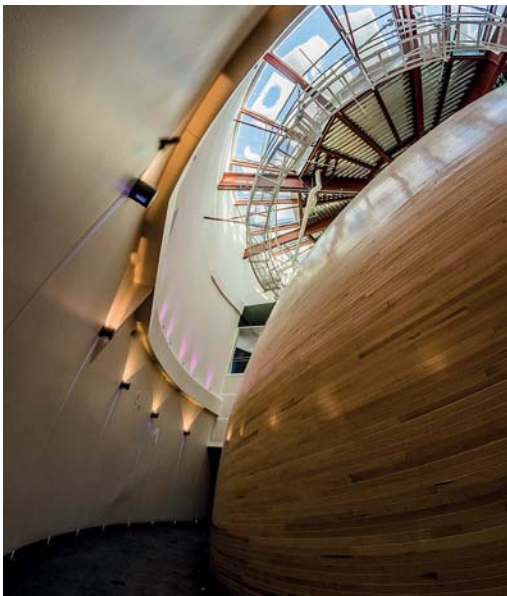
The star projector is supported by another fulldome array of video projectors. We call that approach a hybrid system. The video system is slave to the optomechanical star projector, so when we have the stars up on the dome and want to display, for instance, the lines between the stars to draw the constellation Orion, all the lines will come from the video system. If we move the sky, reproducing the motion of the stars going from east to west, the video images will sync and follow the stars very closely. That gives us flexibility to show the constellations, frontiers between the constellations and all the astronomical coordinate lines we use in astronomy. We can also tag the stars and write their names beside them.

The astronomical theatre has concentric, fixed seating with everyone facing centre. The floor is raised 50cm (1.6ft)

✔ Multi-touch exhibit screens enable visitors to navigate animations, images, texts and videos



ALL PHOTOS THIS SPREAD: CRÉDIT: LAURENCE CHOUWET



above the main floor, so when guests are seated, their heads are close to the horizon of the dome. Instead of having the impression of looking at the stars from the bottom of a well, it's more like being seated in a field and having the stars surrounding you.

Sky-Skan is responsible for the integration of the optomechanical star projector and the video projectors in the astronomical theatre, plus the arrangement of the video projectors in the multimedia theatre.

WHAT'S THE VISITOR EXPERIENCE?

Visitors will be directed to either the multimedia theatre or the exhibit area, depending on the time marked on their ticket. We run shows on the hour and want to make sure that visitors don't miss any part of the experience we have in store for them.

In the old Montreal Planetarium, we had a 45-minute presentation. Two-thirds was pre-recorded, then an astronomy interpreter would take people on a tour of the current night sky. As we now have two theatres, we've been able to separate these two experiences.

The multimedia theatre hosts the pre-recorded part of the experience – a 23

▲ The planetarium has 4,000sq m of space with room for exhibits, classrooms and function rooms

minute-long presentation by well-known multimedia creators Michel Lemieux and Victor Pilon. Visitors are taken on a trip from the surface of a lake in the Laurentian mountains north of Montreal, up to the extreme outreach of the universe, down underneath the lake and then back to the surface again. The narration is musical, set to excerpts from the symphonic music of the renowned American composer Philip Glass, which is very exciting for us. The experience is rich both visually and aurally.

Visitors then go into the astronomical theatre for a 40-minute show, where a live astronomy interpreter talks them through the current night sky under the magnificent Konica Minolta starry sky. After 20 minutes, we blast off from Earth in our virtual spacecraft to visit up close all the objects and phenomena that were discussed in the previous part.

For instance, if Jupiter and Saturn are visible on a particular occasion, then we fly to these two giant planets and

explore them, their moons and their rings. Or we may take visitors all the way to the edge of the known universe – to the outskirts of our Milky Way.

The fulldome video technology we use in both theatres allows us to travel anywhere in the universe and look at whatever we want to see. For example, if a new exoplanet was discovered around a star in the Milky Way, we could show that new planet up close, as soon as it's added to the database. It's easy to show the planet revolving around its star, even though it was only discovered a few hours before.

Every show is different because it's be driven by what's happening in the universe on a day-to-day basis. In the astronomical theatre, we run separate presentations in French and English.

At the end of the presentation in the astronomical theatre, visitors go into the 500sq m (5,400sq ft) exhibit area. This is devoted to one of the most important questions in astronomy – are we alone in the universe or are there other planets where life has emerged, and maybe evolved, perhaps not to the point of intelligent life, but at least primitive life, such as bacteria? It's such a major topic and drives the exploration

PHOTO ESPACE POUR L'AVENIR DANIEL CHONIERE



The surface of a lake in the Laurentian mountains

◀ Visitors relax under the sky in a recreation of the surface of a lake in the Canadian mountains

► of Mars and the new exoplanets that we're discovering every week.

We use multimedia design exhibits. Instead of having printed panels with text and pictures, multi-touch screens enable visitors to navigate animations, images, text and videos. Most of the information is presented in a digital form. This is very dynamic and can be updated easily, which is essential, as it's a topic that's changing very fast. If we finally discover the smoking gun of life on Mars, for example, we'll be able to present that information immediately. This exhibit will be presented for the first five to seven years of operation of the planetarium.

Part of the exhibit will be devoted to meteorites because there's a strong link between meteorites and the appearance of life on Earth. We have one of the largest meteorite collections in Canada, which is on display.

There's also a fully functioning geological laboratory with a large window to allow visitors to see how we study meteorites and take care of them. At certain points in the day, the public can interact with animators and scientists around the meteorite laboratory.

To experience everything we offer at the planetarium takes between two and three hours. After the exhibit, visitors can spend time in the café, participate in a special presentation in one of our three classrooms, or go on to visit the Montreal Biodôme, the Botanical Garden or the Insectarium.

It's a topic that's changing fast. If we finally discover the smoking gun of life on Mars, we can present that information immediately

WHAT WAS THE INSPIRATION?

The inspiration for going anywhere in the universe in the astronomical theatre is based on our own experience of using that technology at demonstrations in Chicago and New York. We were inspired by the fact that, with a simple joystick or iPad, we can control the images that are projected on the dome and can travel anywhere in the universe. It's so powerful and so novel.

The inspiration for the multimedia theatre is Michel Lemieux and Victor Pilon's own cottage in the country between Montreal and Ottawa. In the evening, they sit by a river filled with rocks and gaze at the reflection of the sky on the surface. When people walk inside the multimedia theatre, they see a highly reflective floor. Whatever is projected on the dome will be reflected on the floor, just like it would be on the surface of a river or lake. Visitors sit on Adirondack chairs or beanbags that resemble rocks coming out of the river.

WHAT WERE THE CHALLENGES?

The buildings are on the Olympic Park, which was built in the 1970s. There's concrete everywhere and very few trees

in sight. As we're The Space For Life, it's a challenge to talk about life in such a sterile environment.

We tried to remove as much concrete as we could. For example, much of the roof is green, to absorb heat, thereby reducing the heat-island effect on the site. The area around the building is renaturalised, with landscaping integrating patches of greenery and trees.

The planetarium construction is the first part of a larger plan that will invest CA\$200m (US\$203.1m, £125.3m, €154.4m) in that area in the next five to eight years. There's a grand design behind all this and we're only one step in that movement. By the end, the look of the whole area will have changed completely. I think people will love it.

WHAT ARE THE FUTURE PLANS?

We'll have new shows and experiences starting in the spring of 2014 and school presentations that will target content in the Quebec school curriculum. Astronomy topics are covered at the primary and secondary level and we want to help the teachers teach good astronomy. We have a plan for the first five years, but it's too early to reveal. ●

GO DIGITAL

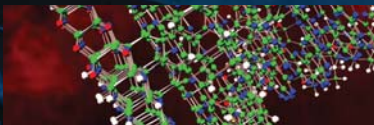
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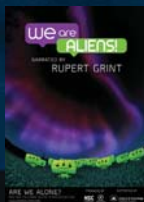
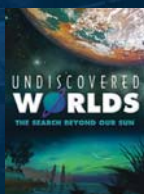
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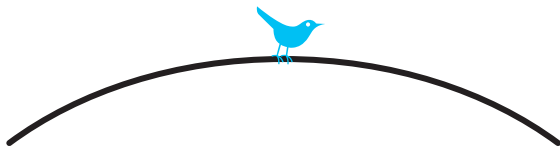
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\$MART MOVES\$

In the first of a new series, social media expert Kelly Wheeler explains how to move your business forward using digital opportunities beyond your website

Just a decade ago, launching a digital campaign meant building a website and maybe investing in a few banner ads to drive traffic. But then along came the likes of Google, YouTube, Facebook, Twitter and the smartphone. Things are now much more complicated, with any online campaign now encompassing far more than just a website.

While the ever-changing online landscape presents countless more challenges, it also offers just as many opportunities. From booking on Facebook, to paying with your mobile, these new possibilities can be both innovative and directly applicable to your offline business.

Over the next few issues of *Attractions Management*, we'll be exploring many of these in detail. But, for now, let's take a look at just a few of these opportunities that go far beyond a simple website.



PRICE:

DON'T COMMENT
ON YOUR GIRL-
FRIEND'S DRIVING
FOR A WEEK



Use a PR event to encourage social commerce, like chocolatier Anthon Berg

SOCIAL MEDIA PAYMENTS & BOOKING

While you're using Facebook to build up your online community or Twitter as a real time newsfeed, you could also be using social media to enhance your visitors' booking and paying experiences.

A recent L2 study showed that 64 per cent of the hotels surveyed had some form of booking facilities on their Facebook pages. These hotels also sent approximately 50 per cent less traffic to online travel agencies than their non-Facebook counterparts, which could result in a saving in commission fees.

Adding a booking page to your Facebook page is fairly simple and often facilitated by a third party. Kew Royal Botanic Gardens in London, UK has replicated the ticketing solution from its website on a Facebook app run by See Tickets. This means that fans can select a date and book and pay without leaving the social media site.

If booking on Facebook isn't appropriate, this isn't your only option. It's



● ● ● ● Operators could follow Kellogg's example and provide something in exchange for positive feedback on Twitter

now possible to pay-by-tweet. Launched in partnership with American Express, this is Twitter's first attempt to build e-commerce directly into the site. The partnership allows users to link their Amex accounts to their Twitter profile. Transactions are made when users tweet a hashtag, notifying the brand of their intent to buy. Amex then responds with an authorisation tweet that the user must retweet within 15 minutes to confirm their purchase. The payment will then be taken from the synced Amex account and the product shipped to the corresponding address.

Currently only available to select partners in the US, this may not be the most feasible option, but it shouldn't put you off experimenting with payments on Twitter. It could just mean that (for now) no actual money should exchange hands.

A recent pop-up shop in London let customers pay for a snack with a Tweet. The Kellogg's Tweet Shop asked customers to show the brand some love on Twitter in exchange for a free treat.

The Kellogg's Tweet Shop asked customers to show the brand some love on Twitter in exchange for a free treat

Similarly, Danish chocolatier Anthon Berg offered free luxurious chocolates to customers in exchange for their promise to do a good deed – shared publicly on Facebook. Customers could 'buy' a box of chocolates using iPads at the checkout desks to log into Facebook and make their public promise to a chosen loved one. This promise was sent via the Anthon Berg page creating huge buzz for the brand on Facebook and tagging in hundreds of potential new fans.

While these case studies may not be technically e-commerce, they're examples of social commerce at its best – PR-worthy events that reward customers or visitors for being social.

MOBILE

Mobile phone usage, in particular smartphones, has developed at an exponential rate over the past few years. It's estimated that more than half the UK population have a smartphone, with the US not far behind at 44 per cent (Google: Our Mobile Planet 2012).

Thanks to this technology, people are always online, increasing the opportunities for interaction and expanding the term digital campaign to include mobile.

A simple way to integrate mobile into any digital campaign is via mobile payments. Studies show that people are most likely to use mobile payments for relatively small amounts when looking

► for a quick transaction, making this the perfect technology for theme parks and attractions, where purchases are small and time is of the essence.

Mobile payment tools enable purchase points to be set up almost anywhere, creating increased opportunities for sales. For example, floating sellers armed with mobile payment tools could service queues for theme park rides and not be restricted by location or cash-only transactions.

Mobile phones offer several ways for users to make payments. Set up by Twitter founder Jack Dorsey, Square is a small credit card reader dangle that can be attached to any smartphone, turning it into a payment point. It's popular with small retailers, who might not be able to take electronic payments otherwise. Square provides the card reader for free, but charges a fee of 2.75 per cent on each transaction. More than two million small merchants have signed up to Square already, and, as of August 2012, the company has had a £25m (US\$39m, €29.6m) investment from Starbucks.

floating sellers armed with mobile payment tools could service queues for theme park rides and not be restricted by location or cash-only transactions

Another payment method is the mobile wallet, which stores a user's payment information on their phone. The most common iteration is Google Wallet, a Google offering that stores a user's credit and debit card information online and uses that information to pay online or offline via NFC (Near Field Communication). One advantage of this is that retailers can also set up special offers and coupons and can link Google Wallet to their loyalty programmes.

However, there are still many consumers who are concerned about storing so much personal information on a single device and the security risks that could

surround simply needing to tap your phone to make a monetary transaction.

Also, there are still some enormous infrastructure challenges – not only do users need to install a mobile wallet, retailers need to equip themselves to manage these types of transactions.

As of yet, there isn't sufficient buy-in on either side to turn the mobile wallet into a must-have element of all digital campaigns. However, be prepared to revisit this in the years to come.

COMBINING ONLINE AND OFFLINE COMMERCE

While pop-up shops and paying with a tweet showcase the more creative side of a digital campaign, we can't forget the data. Chances are that no matter how gorgeous your site or Facebook cover photo/banner ad is, the powers-that-be will always want to know just one thing – where's the return on my investment (ROI)?

Luckily, Google Analytics recently unveiled its new Measurement Protocol and a feature that it dubbed Universal Analytics. This feature is now open to all users and can go a long way to proving the use of online to offline commerce.

Essentially, Universal Analytics offers three core benefits – the first being the ability to track users by their profiles, as opposed to assigning information and behaviour to visits alone.

This means that if a user has a profile and has signed into a site on their desktop, and then subsequently logs in on their mobile, Google Analytics will be able to assign the complete user journey across both devices.

So, if a user clicks on one of your PPC ads on their desktop, signs up to your site, and then makes a reservation via their mobile, you can still attribute the reservation to your PPC ad and see what the complete user journey was.

Crucially, this lets you see how users behave across devices and can play a critical role in proving the effectiveness of elements of your digital campaign.



● ● ● ● Square can be attached to any mobile phone to turn it into a payment point



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● ● ● Google Analytics enables you to follow a complete user journey on both a desktop and a mobile phone


- For example, if you're utilising NFC or other mobile specific technologies, but you have a big marketing push on desktop search, you'll be able to show how the two interlink.

The second core benefit of Universal Analytics is the ability to now import other data into Google Analytics and overlay it on the standard analytics data.

This allows Google Analytics users to overlay cost information with your online reporting. For example, if you're paying your SEO agency a set retainer fee, you can include that next to your search data to see what your cost-per-visit is from an SEO point of view. This will leave you with a closer understanding of what ROI that agency is delivering.

Similarly, if you're pushing a massive NFC subscription campaign through offline advertising, you can overlay those offline costs on your mobile usage metrics. From this, you can begin to get an idea of how successfully your investment is being monetised.

When you combine both features, you can get a wealth of data. For example, if you're using NFC payments, you can see how users find your site and combine that with how they pay with their

 yet another benefit is the ability to assign customer lifetime value

mobiles offline. From this, you can see what online activities deliver the most cash offline and, from their profile data, which type of people convert best.

The final benefit is the ability to assign customer lifetime value, which is particularly relevant for any e-commerce properties you may have set up.

By assigning values to actions on our sites, and in conjunction with the previously mentioned two features, this will allow us to view the value of a user over that consumer's lifetime and across all of their devices. With this data, we can begin to segment the users and compare their acquisition costs, creating an incredibly powerful CRM data-set that will ultimately help to answer that inevitable question about ROI.

Today, a digital campaign encompasses everything from layered

analytics to creative social commerce. While we've barely scratched the surface of the opportunities available online, the options I've outlined should provide plenty of opportunities that any brand can capitalise on.

No matter what you incorporate into your campaigns, there's one thing to always keep in mind – digital is now with us wherever we go. We, as brands, finally have the opportunity to link all of our activities together and get the most comprehensive idea that we've ever had of who our consumer is.

The technology's already there – the challenge is the lack of precedent. To really capitalise on digital and its opportunities, a new approach is required – one that's willing to trial new things, test them and then learn from them.

Even something as simple as a Facebook booking tab can be scary for a brand to undertake. But isn't it scarier to ignore the potential pay-off? ●



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In 2012, the Manchester Museum, UK, became the first museum in the world to harness the new technology of haptics, giving an entirely new way of accessing the museum's collection of ancient artefacts in its revamped Egyptian Gallery, the Ancient Worlds. This was achieved using a console called Probos, which brings digital images, sound and haptics – or virtual touch – together.

Created by Touch and Discover Systems, with funding from the Stavros Niarchos Foundation, Probos is a portal into virtually touching objects that are too precious to receive regular handling. It offers a selection of objects from a digitised catalogue that can be explored to reveal their physical qualities, attributes and history. Originally designed with blind and visually impaired users in mind, it has appealed to early users, especially children.

HOW IT WORKS

Using a control device held in the fingertips, the user can explore the sur-



A simple omni handle is easy to use and disguises the complex technology needed

faces, shapes and sounds of ancient objects that are usually inaccessible behind glass cases. Haptics draws on force feedback to create resistance to touch, tricking the mind into the sensation of touch. In fact, nothing is there at all – it's all virtual.

The haptics device at the heart of the system is a SensAble Phantom Omni, but the user is deliberately given the simplest of interfaces, so they're able to use the technology after a brief tutorial with everyday objects and are unaware of the underpinning technology – we wanted the users' focus to be on the

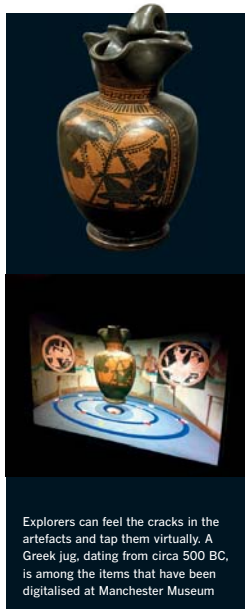
object they're exploring, rather than the technology they're simultaneously experiencing. As well as haptics, Probos adds extra dimensions for the sighted because it uses the three main senses of vision, hearing and touch.

So far, Manchester Museum has digitised three of its artefacts: a Greek jug, dating from circa 500 BC; a terracotta bowl surmounted with hippopotamus figures, dating from circa 5,000 BC; and an Egyptian figurine, or Shabti, dating from circa 380 BC. The visualisation environment was done using custom software by virtual reality company Virtualis. The objects were then sited in re-creations of their likely original locations and each object was covered with hot spots, which tell the user about the item's construction and history.

Haptics are used to tell the story of each object. Explorers of the hippopotamus bowl don't just feel the hippos, they also feel the crack that runs along its centre. The bowl even sounds cracked when you tap it virtually – something you wouldn't dare do in real life. Ultimately, we hope to digi-



The user's mind is tricked into the sensation of touch



Explorers can feel the cracks in the artefacts and tap them virtually. A Greek jug, dating from circa 500 BC, is among the items that have been digitalised at Manchester Museum

tise objects from collections all over the world, bringing them within literal reach of vast audiences. We've also developed a portable version of Probos, so museum masterpieces will be able to travel to schools, colleges, universities and remote communities.

The Probos team worked in close collaboration with Virtualis' lead modeller, Tim Goodwin. As the technology was entirely new, there was a great deal of experimentation with the user interface to find the best way for people to learn how to operate the system without time consuming instructions. "Trying to design something completely intuitive is bizarrely difficult," admits Goodwin.

THE INSPIRATION

The idea behind harnessing touch to enrich visitor experience began in 2002. Having trained in sculpture at the Royal Academy, I realised the importance of the tactile connection. During my training, it became apparent that even touching plaster casts of famous sculptures brings you closer to the artist who created it. Touching creates sensory

connections and emotional memory to aid learning. Digitisation is the way forward and the benefits for conservation practice, and the heritage sector generally, will be immense.

In 2010, I worked with Virtualis to form Touch and Discover Systems to develop the haptic Probos system. The design brief was to create an inclusive 3D platform that enables the public to benefit from sophisticated haptic technology, engaging three senses – audio, visual and tactile – simultaneously.

THE FUTURE

Now that Probos has been established, with a travelling variant for outreach work to schools, colleges and libraries, the inclusion of additional museum artefacts from Manchester Museum and other museums is the vital next step.

New objects will offer a greater depth of content, incorporating filmed interviews in which curators introduce and discuss the object, animation and film sequences. The ultimate vision is that entire collections from around the world will be digitised for Probos, giving fas-

cinating insights for both visitors and academics pursuing research.

The successor to Probos will give an even more life-like experience, offering more tactile depth, such as fast/slow friction or vibration, plus new sound clues to actions, location and proximity to objects and surface, as well as further finessing the user interface to make it more accessible to all users. At the start of each user session, a new settings function will enable people to establish their personal settings preferences in a way that best suits them.

Although I first came across haptics a decade ago, it was experimental then. I believe we're going to come across the technology more in our daily lives, with many computers being haptically enabled. If I'm correct in this prediction, then Probos will be a significant technological milestone. ●



Christopher Dean,
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THE FORREC TEAM

Entertainment designers Forrec are one team with a global commitment through representatives in Europe, the Middle East and North Africa, China, South-East Asia, India and Latin America and the Caribbean

GORDON DORRETT

Role: President and CEO

Territory: Everywhere

Characteristics: Progressive, determined, adaptive

Industry experience: 25 years+

Career path: Landscape

Architect to President and CEO of internationally renowned firm

Q: What is Forrec and what has contributed to its longevity?

Gordon: I wish I could say this was all carefully planned, but like many things in life, it was a matter of recognising opportunities and running with them.

In the mid-60s we got our first big break when Forrec's parent firm was chosen to develop the landscape architecture for the 67 World Expo in Montreal.

The job included an amusement park and we subsequently attracted other commissions, including West Edmonton Mall. The firm eventually became Forrec, the world's largest professional firm dedicated to entertainment design.

I like to think Forrec is somewhat irreverent and willing to try anything. Our success over the past 40 years stems from our willingness to take what I refer to as 'design leaps'. We've sprung from one idea to the next in non traditional design leaps, such as from landscape architectural practice to entertainment design, and from designing for entertainment clients to designing for retail, resort and science centre clients and, finally, from working



locally to working internationally.

Q: Has this approach always led to success for Forrec?

Gordon: I'd be lying if I said yes – we've definitely learned from the school of hard knocks. Fortunately, we've had more success than failure along the way. Our entrepreneurial approach has served us well. However, we've spent the last few years taking a hard look at who we are and how we work and we've made a strategic company leap from opportunistic to focused sustainability.

Q: What does 'focused sustainability' mean to Forrec?

Gordon: In our formative years, we grew

organically but to be a successful company we've had to make sure that our business side was as well developed as our creative side – left and right brain if you will. We're taking a much more proactive approach to business.

Q: Has your new focus had an impact on the organisation of the company?

Gordon: Absolutely! We've had to change to grow. We now have five distinct internal design studios: Architectural, Graphics, Interiors, Landscape Architecture and Creative – the backbone of our design solutions. Since the majority of our projects require many, if not all of these skills our studios work collaboratively in large multi-disciplinary teams.



We go to market by the type of projects we do and each of these types is directed by an in-house industry expert – a Sector Lead. Although our collaborative working methods mean there are no ‘star’ creators on our projects, Forrec’s clients benefit from the more than 300 years of expertise of our management team.

Q: Where is the design work done?

Gordon: Although 90 per cent of Forrec’s projects are outside Canada, all of our work is still done in our Toronto studio. By keeping all of our work in one studio we’ve been able to grow our expertise and continue to ensure the quality of our work. This means one team, one global commitment.

Q: Tell us about your global reach

Gordon: The directors of Forrec made a decision to invest time, money and resources to develop long term relationships in each of the world regions we’re working in. Our executive vice presidents and regional directors are based in offices around the globe and lead our business development initiatives. As our brand ambassadors they are building relationships and finding and securing new business globally.

JAMES LIU

Role: Regional director

Territory: China

Characteristics: Forward-thinking, respectful, smart

Industry experience: 10 years+

Career path: Architect to new business development

Q: What are the benefits of building long term relationships?

James: The surest indicator of a successful business relationship has very little to do with the content of the contract. Our relationships revolve around improving our services to our customers by offering solutions tailored to local markets. As regional directors we’re building relationships with like-minded firms who add value to the services that we already provide to our clients. For example, in Asia we’re embarking on a partnership with Tongji Architectural Design Group Ltd, one of the leading design institutes in China. These partnerships help us to extend the range of services we provide and ensure we keep a consistent quality of service.

We made a decision to invest time, money and resources to develop long term relationships in each world region

Q: Why has Forrec been successful in China when so many other companies have failed?

James: I live and work in China and I’ve seen Western businesses come and go over the years. Forrec is not a flash in the pan firm. We’ve been doing business in China for 20 years; we’ve developed detailed knowledge of the market and have a firm understanding of the cultural landscape here. We’re successful because of our commitment to the market and to understanding the entertainment and leisure needs and desires of the Chinese people.

We are proud of our business acumen
– creating experiences that put people
first and make business sense



MIGUEL LAMEIRO

Role: Regional director

Territory: Latin America
and the Caribbean

Characteristics: Analytical,
energetic, professional

Industry experience: 15 years+

Career path: Educator to new
business development

**Q: Technology: a tool or a trap when
doing business internationally?**

Miguel: It is easy to become seduced by the latest technologies, especially when working globally. We keep it simple. After all, it is not only about what you say – it's also how you say it. Some collaborative tools are very powerful, they enable us to move faster, keep everyone on the team up to date and solve problems, which improves the quality of service to our clients. We believe face-to-face communication is still the best way to get a job done and that's why we have dedicated team members on the ground around the globe.

**Q: How does Forrec balance design
value with commercial sense?**

Teri: The firm has an outstanding reputation for creative solutions that work: design can be really cool, but it has to be functional as well. At Forrec, we're proud of our business acumen – creating experiences that put people first while also making business sense.

Because we manage our business conservatively and apply the same judgement to the choices we make for our clients, they come back.

I've known Gordon and the Forrec team for 25 years. I hired them while at HIT Entertainment and worked alongside them while at INTAMIN and WhiteWater/Prime Play, so I've been a customer and a business partner. Now I've joined the team as Regional Director of EMEA, because I love Forrec's design philosophy.



JIM BOWEN

Role: Regional director

Territory: South East Asia

Characteristics: Practical,
entrepreneurial, creative

Industry experience: 20 years+

Career path: Retail expert to
new business development



TERI RUFFLEY

Role: Regional director

Territory: Europe, Middle
East and North Africa

Characteristics: Seriously
fun, focused, empathetic

Industry experience: 25 years+

Career path: Attraction
and event licensing to new
business development

**Q: Forrec's team works across time,
space and organisational boundaries.
What keeps the team together?**

Jim: We're diverse and yet we all share the same passion and desire to excel and be the best.

We are driven by creativity, technical know-how, and a sense of humour. Our team is a reflection of the people we work for. We can speak multiple languages and the depth and range of know-how, from teaching to operating world class attractions and everything in between, is really quite astonishing.

The spirit at Forrec resonates throughout the entire team regardless of where we are in the world. We don't succeed in spite of one another, but because of one another. We are collaborators and people who really enjoy helping others – we're people people!

**Q: What does the future
look like for Forrec?**

Gordon: I'm a little biased, but from where I stand, the future looks brilliant for Forrec. But – and there's always a but – to stay at the top in our industry, we have to keep thinking and learning – developing and nurturing our creative left and business right brain as one, without losing sight of where we came from and what we value. ●

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Theme Parks Water Parks Entertainment Centres



Puteri Harbour Family Theme Park, Malaysia

Retail and Mixed-use Resorts and Leisure Communities



LEGOLAND Malaysia, Malaysia

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WeatherAll LCD outdoor flat panels by Christie

The new Christie WeatherAll Series of LCD outdoor flat panels includes the 55-inch Christie FHD551-W professional grade full HD solution. The series is designed to perform in a wide range of applications including outdoor sporting venues, live events, architectural applications, entertainment parks, public displays, hospitality and resort industry and other outdoor functions.

attractions-kit.net KEYWORD
christie



Electro pop group use Dataton AV technology

German electro pop group Kraftwerk is using the dynamic interactive and 3D features of Dataton Watchout multi-image and presentation software for on-stage digital scenography at tours and concerts in 2013. Watchout manages projected 3D content on a large stage backdrop creating a powerful abstract presence in front of audiences wearing polarized 3D glasses. Watchout version 5 enables live manipulation of content.

attractions-kit.net KEYWORD
dataton

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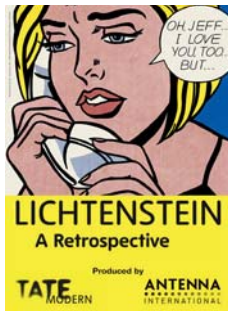
Acoustiguide launches interactive family tour

Acoustiguide has launched a children's tour at the Tower of London, UK with the Historic Royal Palaces interpretation, curatorial and education teams. The first family tour at the Tower, it is presented on Acoustiguide's Opus Click guide and is based on audio, with visuals such as still images and cartoons presented on the screen. The tour is aimed at children aged between five- and seven-years-old, combining interactive and fun elements to encourage families to explore the Tower using their own map and adventure.



© HISTORIC ROYAL PALACES

attractions-kit.net KEYWORD
acoustiguide



attractions-kit.net KEYWORD
antenna

Whaam! Mobile app and multimedia guide

Antenna International has produced a new multimedia guide and mobile app to accompany Lichtenstein: A Retrospective, on display at Tate Modern in London until May 2013. The show is the first full-scale Roy Lichtenstein retrospective in more than 20 years and brings together 125 of his most definitive paintings and sculptures. The guide and app explores the life and work of Lichtenstein, looking in detail at more than 20 of his iconic pieces, and will guide users and visitors through the multiple inspirations behind his vibrant and eye-catching art.



MessageMaker displays at UK football museum

An aerial display from MessageMaker provides a dramatic backdrop at the National Football Museum, newly relocated in central Manchester, UK. Stretching more than 30m (98ft) in length, the curved display demonstrates the latest display technologies. The bespoke design comprises a lightweight u-shaped mesh structure custom-curved and suspended from thin wire to provide a semi-transparent display that appears to float in mid-air. The curve is formed by a series of short, straight lengths, precision-engineered to fit.

attractions-kit.net KEYWORD **messagemaker**



attractions-kit.net KEYWORD **digital spring**

Digital Spring develops WWF mobile network

Digital Spring Mobile UK mobile operator has partnered with WWF to launch a UK mobile network designed to generate funds to protect wildlife and the environment. WWF Wildlife Mobile is operated by UK mobile virtual network operator, Digital Spring Mobile and delivers UK-wide coverage on the Vodafone Network. The new service from WWF targets environmentally aware consumers, promising 'every conversation helps conservation' with 10 per cent of the net revenue from all call, text and data usage on the sim-only service going directly to WWF UK to help its global conservation work.



Pixled launches new floor and strip products

LED screen designer and manufacturer from Belgium, Pixled, has released new floor and strip based products. The new Pixled F-24 strip is a centimetre high, with a 24mm pixel pitch and 1.8cm installation depth. It's available in a wide range of lengths for the creation of geometric shapes. The floor LED modules can be used for rectangular wall screens and for floors.

attractions-kit.net KEYWORD **pixled**



dcinex uses Dolby Atmos in European cinemas

Belgium-based dcinex technical consulting has installed Dolby Atmos in cinemas across Europe in Austria, Czech Republic, Germany and The Netherlands. Now dcinex is sound audited and implementing 11 other Dolby Atmos platforms in Austria, the Czech Republic, Germany and Benelux. Dolby Atmos is designed to bring a natural, realistic sound to envelop the audience as an end-to-end solution for immersive soundscapes.

attractions-kit.net KEYWORD **dcinex**

Multimedia and AV



Blackbox-av Lightbox 2 for media browsing

Blackbox-av has released Lightbox 2, the second generation of its off-the-shelf, customisable museum media browsing software. Already installed in the Panacea Museum, Bedford, UK, the system is designed to give museums and heritage sites a way to organise and present their archived media to visitors in a customisable, elegant and multi-touch interface.

attractions-kit.net KEYWORD
blackbox av

Arcstream AV creates interactive wine experience

Arcstream AV has completed an immersive and educational experience to transform visitor attraction and events venue Vinopolis in London, UK. The AV installation takes visitors through the grapes, regions and tastes of wines across the world in its vaulted railway arches. Touchtables, touchscreens and projectors were installed alongside a PufferSphere XL 360° projection globe, with a range of educational, interactive content designed by Arcstream to personalise the user experience. Three 42-inch digital signage screens were installed in the reception area and four Samsung SUR40 for Microsoft Surface tables split into four screens, to enable simultaneous multi-use, were installed in the two main tasting



zones. The interactive content takes visitors through a taste experience while they try to create their ideal wine in the Winery.

attractions-kit.net KEYWORD
arcstream

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Italian national cinema uses projectiondesign

As part of a technological overhaul in one of Europe's most evocative museum spaces, projectiondesign has supplied 40 of its high-performance DLP projectors to the Museo Nazionale del Cinema in Turin, Italy. Housed inside the Mole Antonelliana, a mixture of projectiondesign F12 and F22 DLP projectors, together with F10 AS3D active stereo 3D models are being used in cinema rooms. Each one is tailored to its own space and application, so that the museum can reflect the growing interest in 3D among film-makers and audiences. The project uses projectiondesign's Pro-Net asset-management software.

attractions-kit.net KEYWORD **projectiondesign**



Lighthouse adds flexible X3 LED indoor screen

LED screen manufacturer Lighthouse Technologies has launched the flexible X3 screen for large-scale indoor LED video displays. It has a 3.9mm pixel pitch and is its highest resolution LED screen to date. Developed in conjunction with XL Video, the X3 has a flexible joint structure that allows the screen to be shaped in different ways to become concave or convex both horizontally and vertically, meaning users can wrap it, bend it or twist it for their stage. ●

attractions-kit.net KEYWORD
lighthouse



Images © MVR Design & courtesy of DJ Willrich

SENSATION CREATION

dataton

ASIAN

Attractions
Expo

Exhibitor Showcase

Taking place on 4-7 June 2013 at Marina Bay Sands, Singapore, the Asian Attractions Expo will be hosting 5,000 professionals, from 60 countries, making buying decisions in the Asian market. We take a look at some of the exciting products and services to be showcased



SALLY CORPORATION

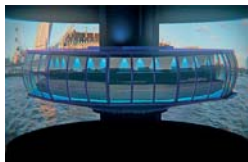
New from Sally, Power Blast is an immersive and challenging ride/game experience, where riders compete against the others in their ride vehicle, or against other vehicles. In this space adventure, visitors are enlisted to travel to a distant planet to save Earth from a

band of space pirates intent on stealing all the energy in our universe. Riders must defeat the leader, Sir Surge, and his army of Orbots, by collecting the energy crystals, while avoiding hits from rockets or the laser blast from Sir Surge's huge rotating grill.



AIRHANT

The expo will see the launch of Aqua Disc, a themed waterpark disco in a space ship. This high voltage experience invites water-park goers to enter a UFO and dance in artificial rain, made from sprinklers, fountains and water jets, accompanied by booming music and disco lights. Airhant believes the attraction will appeal to teenagers, as well as friends and family wanting to "have a blast" together. It can accommodate 250 people at a time.



HUUS

Huus is showcasing a brand new ride experience. The Explorer uses a 12m diameter circular gondola, which can accommodate up to 70 guests, seated in a closed cabin. Facing outwards, they'll watch a seamless 360-degree film through full height glass, which will be unique to each installation. The content can be created as CGI, live action or a combination to create either a white-knuckle ride or a calm, scenic journey.



FORREC

Forrec has been working with Iskandar Investment Berhad and Merlin Entertainments to masterplan Legoland Malaysia, part of a 59-acre integrated complex in Johor. The latest of the Lego branded theme parks, this will be the first international park in Malaysia and first Legoland in Asia.

It will feature many Asian icons, including the Taj Mahal, the Singapore Merlion and Angkor Wat.



TAA

Specialist manufacturer of themed environments, TAA's latest major project, is Turkish theme park, Vialand. For the water ride, TAA is building a 21m (68ft) high Viking warrior, a 25m (82ft)-long timber Viking ship, and a Dragon sculpture – a 60m (196ft) tunnel which guests drive through in boats. TAA is also creating the facade works for the Happy Farm Ride, the Fun Zone Street and the arches to the zones and rides.



SANDERSON

Sanderson is currently working on a couple of projects in China. The Mysterious Theme Park in the Jiangjing District, Chongqing City is a park based on world famous unsolved mysteries. The 58,500sq m (192,000sq ft) Qingdao Rio Carnival project combines a beach experience with entertainment and leisure facilities, shopping and food and beverage facilities, with the aim of creating an all year round family experience.

GATEWAY TICKETING

Gateway Ticketing Systems will be showcasing Galaxy Roam, its latest innovation to cut queues on busy days at attractions. This mobile ticketing sales and validation system, allows the point of sale to be taken to the customer, so visitors can access the facility more quickly. Staff equipped with the Galaxy Roam can sell event tickets in the park, so guests don't have to make their way back to the front gate – a great way of boosting secondary spend.



NICEBERG

Niceberg will be profiling its latest 4D films: *Great Wall of China*, *Toy Ride* and *Catacombs of Paris*. Suitable for theatres and simulators ranging from 50-250 seats, all films combine fun with learning. *The Great Wall of China* allows visitors to explore this wonder from the perspective of a traditional rickshaw and immerses them in symbols of Chinese culture and history. In *Toy Ride*, visitors get miniaturised, to take part in a race between toy cars in a children's playroom. The audience learns the life of a toy can be really tough, being tossed around in the hands of children. *Catacombs of Paris* is a not-too-scary Halloween film targeted at a family audience, taking visitors underground, to explore the famous Catacombs of Paris, the underground cemetery.



VEKOMA

Vekoma has recently been working on Berjaya, near Beijing, the largest shopping mall in the world, with an indoor water theme park, a family theme park and an extreme park, as well as a convention centre, theatre, retail, office blocks, an aquarium, sports centre, a hotel and service apartments. The entire project, with a total built-up area of 1.84 million sq m, (six million sq ft) is expected to be completed in March 2017. Vekoma has designed Dive Pretzel for this project, the tallest indoor coaster in the world, with vertical loops, exciting dives and turns and speeds of up to 100km per hour. The project will also feature Vekoma's motorbike coaster, which runs in and out of the building at around 75 km per hour.

ALTERFACE

On show for the first time will be Alterface's new dark ride concept, which enables re-theming for a limited budget. This is achieved by standardising and applying some specific building technologies, which allows the ride to be upgraded regularly. This new concept also features an interactive theming concept and gives small and medium venues the ability to reach major attractions parks dark ride experiences.



WHITEWATER

Whitewater will be profiling its latest innovation, AquaCourse™, a multi-level play experience allowing each member of the family to choose their own level of adventure. Guests traverse through an exhilarating course of ropes, towers, bridges and zip lines while safely harnessed into overhead tracks. They can choose from multiple tracks, which are as wet or dry, active or passive, as they want. There are 20 different types of automated and guest-operated water interactives including water guns, foot jets, deluge showers, surprise geysers, rope pull showers and tipping troughs.



TRANSAS

The Trance-Force interactive 5D attraction Orion is now available in a red and black colour way. It's already installed in many Russian cities, including Sochi, where the 2013 winter Olympics will take place. Designed as a four-seater space shuttle, Orion incorporates a large screen with a 3D system, motion platform and interactivity. All seats have joysticks, allowing visitors to control the simulator and objects, take pictures and answer quiz questions, turning observers into participants.



PROSLIDE

ProSlide is launching the HydroMagnetic Tornado™, which combines the fast, steep uphill and down hills of the HydroMagnetic Mammoth water coaster, with the award-winning Tornado. Riders are dropped into the 18m (60ft) funnel, experiencing zero gravitational forces, as the rafts sweep up the Tornado wall until they are perpendicular to the ground, then across and along its equator line.

After a series of oscillations through the funnel, the rafts finally descend into the landing pool below.



OMNITICKET NETWORK

Omniticket Network will be highlighting its Best Overview Solution – a leading global solution that has been installed at multiple prestigious attractions, including Ocean Park in Hong Kong. Features of the system include setting up a multi-site environment, using one central database, which can be connected to sales locations at multiple locations and distributors. It also allows staff to build a ticket product which includes multiple ticket entitlements to fit guests needs, such as including meals and shows.

IAAPA 2014 set for China

China has been confirmed as the host for IAAPA next year. Taking place at the China National Convention Center (CNCC) in Beijing on 17-20 June 2014, the show is expected to attract more than 5,000 attractions industry professionals from 60 nations.

"IAAPA is looking forward to bringing Asian Attractions Expo to China," says IAAPA vice president Asia Pacific Operations, Andrew Lee. "The attractions industry in China is



growing at a rapid pace, with several attractions recently completed and a number of other major amusement parks in development, making Beijing a great choice for AAE 2014."

LCI

LCI will be talking to customers about its water show designs, which are created to provide the finale in a theme park or other FEC. Custom made for the client, the show designs can vary hugely in scale and may use performance, film, CG and other effects, including pyrotechnics, water screens, fountains, lighting and video display. LCI is looking to expand video mapping and other video techniques into permanent installations in theme parks. ●



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Peoria Riverfront Museum showing "Sea Monsters: A Prehistoric Adventure" by National Geographic

Reuben H. Fleet Science Center showing "Cosmic Collisions" by the American Museum of Natural History

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How do 4D film distributors work with operators?

FILM REVIEW

In the first of a new series, we ask the suppliers to describe their business model

Kathleen Whyman, managing editor, Attractions Management

Simworx sells 4D cinema and simulation attractions worldwide

SUPPLIER FOCUS

TERRY MONKTON / MANAGING DIRECTOR / SIMWORX

What is your business model?

We manufacture and sell 4D cinema and simulation attractions to clients worldwide. While the majority are sold outright, in some instances, we carry out a profit share scheme. In this arrangement, we typically supply the equipment and the venue supplies the location, utilities and operating staff. We then share the revenues on a 50/50 basis.

How do you choose the product?

Many factors are taken into account when selecting the right product, including the type of venue, the visitor demographic and the subject matter. Then we tailor our offer to reflect the customers' requirements. Operators can choose our 4D cinemas for a family experience or our Stargazer and



Cobra motion theatres for a thrill seeking attraction for teenagers and adults. We can supply attractions for as few as 16 riders or up to several hundred.

As well as having a wide product range and film library, we're also able to custom design and build attractions, such as *The*

Little Prince, which we created for Futuroscope in France.

How do you work with the client?

We're a turnkey supplier so, as part of the sale process, we supply the client with technical drawings and information to enable them to prepare the room or building that the equipment's going into. This includes floor loading details, power requirements and locations. Once the room is prepared to our specifications, we do the rest.

Once the installation has been carried out, we give full operator training before the attraction opens. Following this, we provide ongoing after sales service support, with a team of dedicated service technicians. Many venues change their 3D films annually, so we install the film and program their attraction with new movements and effects.

We're happy to make further changes to our projects following the initial installation, which could mean a new film, additional effects or even changes to the programming.

What's your latest product?

We've just finalised a new product called an Immersive Tunnel. Seating 30, 60 or 90 people, it's a simulation attraction with 3D film content on three sides of each rider. The first will be installed at a new major theme park in Europe later this year, with orders being taken for other attractions worldwide.



Hansel and Gretel: Witch Hunters was the first film in MediaMation's roll-out

MediaMation's 4D theatre roll-out in Mexico

US-based MediaMation has crossed over into the cinema marketplace, supplying Mexico's Cinemex, the world's sixth largest chain, with a roll-out of X4D Motion EFX theatres and programming of new feature film releases.

The roll out started in January at Cinemex Santa Fe 260-seat X4D Theater, with the film *Hansel and Gretel: Witch Hunters*. Distributed by Paramount Pictures, there will be at least one new release per month with

select films from all the major studios.

X4D Motion EFX theatres feature 3DOF motion, seat transducers, pokers, leg and neck ticklers, air and water blasts, wind, strobes, fog and scent.

The X4D Motion EFX Experience uses air pneumatics to control the motion – side to side, front to back, up and down – and effects in the seat and auditorium.

The immersive experience includes an array of experiences, from powerful seat transducers – subwoofers under each



■ The Cinemex Santa Fe X4D Theater

seat that react to the soundtrack of the film – to seat poppers and pokers, air and water blasts, leg and neck ticklers, wind, strobe, fog and scent.

nWave distributes Penguins 3D worldwide

nWave Pictures Distribution – an nWave Studios company – has acquired the worldwide distribution rights to *Penguins 3D* from British company Atlantic Productions, creators of the BAFTA-winning *Flying Monsters 3D*.

Written and narrated by renowned naturalist and veteran filmmaker David Attenborough, this tale of the epic journey of one special penguin will be released in the US on May 24th in time for Memorial Day weekend.

Penguins 3D, which comes in 40- and 20-minute versions, 3D and 2D, 15-perf/70mm, and digital in 4K and 2K, will be available from nWave exclusively, for exhibition at Imax theatres, RealD and digital 3D giant screen cinemas.



■ *Penguins 3D* premiered at GSCA 2013

The film depicts the fortunes of a young male King Penguin, who returns to the place where he was born and raised. Known as Penguin City, this sub-Antarctic island is home to albatrosses, leopard seals, elephant seals and six

million penguins. Somehow, our hero must earn his place among the inhabitants and fulfil his destiny by finding a mate and raising a family.

Penguins 3D was produced by Atlantic Productions in association with BSKyB and US-based Galileo Digital Entertainment. The action takes place on the remote island of South Georgia, a British overseas territory in the southern Atlantic Ocean. It was filmed in 4K 3D on location over a five-month period. Production lasted 14 months.

The industry premiere of *Penguins 3D* was hosted in March 2013 during the Giant Screen Cinema Association (GSCA) 2013 Film Expo at Moody Gardens in Galveston, Texas, USA. ▶



The Juice's branded films include *Elvis Rocks*

PAULINE QUAYLE / DIRECTOR / THE JUICE

What is your business model?

The Juice was formed to distribute high quality films for 4D attractions and rides in theme parks, cruise liners, museums and FECs around the world.

Our main aim, as well as ensuring attention to detail, is understanding our clients' needs and requirements and satisfying these needs with films that are suitable for the venue, the client and their audience. Choosing films can be very time consuming. By working together and understanding our clients' needs, we try to make that process run smoothly.



ending of the films from our existing library, if the client wants it be personalised to their venue. Clients license the film for a specific period and can change the film at agreed times during the term. We can intersperse with seasonal films to ensure they're maximising their return on investment.

As we've developed as a company, we've set up our own production facilities, which helps when clients want something specific. For example, we're currently making a film for Metropolis, which is supplying a major 3D attraction in partnership with the National Rail Museum in the UK. The attraction commemorates the 75th anniversary of the Mallard becoming the fastest steam

locomotive in the world and will be launched in the summer.

What's your latest product?

New for this year is the launch of an encryption system. This will remove the need for operators to have to invest in expensive hardware. Instead, the end user downloads the virtual disc and enters the license key to activate it.

For our studio partners, this means that their films will be absolutely secure. It also opens up a wider marketplace for distribution and enables more choice to companies that have invested in 4D theatres, but are denied film choices because of the fear of security.

We're also working with a couple of hardware companies, as their media partners, as well as working on some new branded titles.

How do you adapt products?

We can customise the beginning or

NEWS

Simex-Iwerks' new SpongeBob SquarePants product

Simex-Iwerks' latest product, *SpongeBob SquarePants 4D - The Great Jelly Rescue*, launched in April at Nickelodeon Suites Resort, Orlando, Florida.

The seven-minute experience, incorporating theatre and in-seat 4D effects, differs to Simex-Iwerks' previous SpongeBob films, as one particular scene offers a variety of outcomes, each utilising a different array of 4D effects. These can be randomly played, allowing guests the opportunity to enjoy a slightly different experience each time they visit.

The story follows SpongeBob, Patrick, and Sandy on an adventure to rescue the Jellyfish from Plankton's evil clutches.

Using 4D effects, guests surf through an electrifying swarm of Jellies, get dragged into the bowels of the Flying Dutchman's ghost ship and feel the rumble of cannon.

Produced in partnership between Nickelodeon, SimEx-Iwerks Entertainment and Super 78 Studios, the 4D attraction and ride attraction is available worldwide and distributed exclusively by SimEx-Iwerks Entertainment. ●



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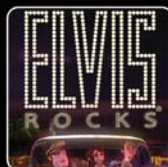
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NEW DIRECTION

With technology moving at such a pace, what's the next direction for ticketing and how will this improve both the bottom line and the guest experience? We talk to the people who are making it happen

Kath Hudson, journalist



Disney's MagicBand can be used in their parks, hotels, retail and F&B outlets

STEVE BROWN

President/COO North America
Lo-Q

"Ticketing systems are in the midst of a significant evolution to keep pace with the changing needs of venues and guests.

Mobile ticketing is one of the biggest trends. Last season three to five per cent of a venue's overall online ticket sales came from mobile devices and we expect this number to continue to grow substantially over the next few years.

Operators also want mobile point-of-sale solutions, so they can deploy staff to their front entrances on busy days to help cut queues.



Integration with Apple's Passbook application is a recent development, which allows iPhone users to collect and easily access digital versions of boarding passes, loyalty rewards and even tickets in one iPhone app. This solution enables guests

to import ticket purchases from a number of attractions.

The tradition of waiting at the gate to buy a ticket or enter a park will quickly become obsolete. Disney is making some bold moves with its MyMagic+ initiative."

DAVID GOLDMAN

President
Ideal Software Solutions

"The shift to online, hosted services has made a big impact on how facilities can serve their customers while creating a better way for owners and managers to keep costs down and create a more secure environment.

Guests want a seamless experience, from the moment they buy a ticket to how they enter the facility. It should be easy and intuitive. Customers don't want to buy a ticket online and then have to stand in line at the ticket counter so an attendant can exchange it for a gate pass. They want bar-coded tickets, which can be printed or sent to a mobile phone and scanned directly at the gate.

Maintaining security on admissions is an ongoing challenge, especially when a facility is using two systems that aren't communicating. Relying on an attendant to reconcile a ticket purchased online with a gate pass, whether through a separate computer programme or by keeping track in a notebook, makes a facility vulnerable to loss. Having one system to do it all in an integrated manner increases security, gives a better guest experience, saves on labour costs and enables accurate reporting."



Up to five per cent of ticket sales are now done from mobile devices

PHOTO: SHUTTERSTOCK/KOSTENKO MAXIM

SCOTT LOBAUGH

Business solutions manager
Gateway Ticketing Solutions

"Operators want ways to be more innovative with tools in order to drive revenue. Many operators are looking at integrated solutions, where one system is used to sell tickets, passes, memberships, educational programmes, retail, food and more. This provides them with the ability to cross promote across their outlets and drive overall cap revenue.

Many operators are asking how they can get their passholders and members to spend more when they visit. Creating innovative packages, which include stored value, retail and food items, as well as having the ability to incentivise through a custom loyalty programme, are tools that drive revenue.

Also, collecting spending trend data through one solution allows operators to make educated business decisions and takes the guest experience to a new personalised level.



Guests want convenience and to spend more time on rides than in lines. They also want one-stop shopping – to buy their admission ticket, event ticket and stored-value card in one go, increasingly from their computer or phone.

The full implementation of chip and pin payment technologies (EMV) in the US by 2015 presents a huge, potentially costly, challenge for operators, who will have to implement chip and pin readers, or face a shift of liability.

There's a vibrant conversation around cloud ticketing: how it can benefit operators and how it can be made more reliable and safe. For large facilities, I'm not sure they're ready to bank on the speed of a cloud ticketing system to get 10,000 people or more through their gates quickly. For smaller facilities, it's a great option to weigh against their

overall maintenance and running costs of a local application. I predict a hybrid approach for those who need speed customer facing transactions and a cloud/web based approach for back office functions."



Apple's Passbook application gives users a variety of options for ticket purchases

PETER FERGUSON

Managing director
Gamma Dataware

"Operators are looking at introducing as many sales channels as possible, to ensure visitors have every opportunity to purchase tickets from a variety of sources – web from kiosks, mobile devices and third party outlets.

We're finding that operators are keen to introduce promotional items on tickets. These could be in the form of tear off vouchers for discounts in the retail or catering areas on the day of the visit to encourage third party spend, or to provide incentives to promote repeat visits.

More recently, we've seen an increase in operators seeking a fully hosted software solution, where in-house staff are accessing software and data held on remote serviced and managed servers. This allows operators to implement systems quickly and efficiently, with much reduced initial capital costs.

An area where we see potential for growth is in tracking visitors within an attraction to see what areas,

exhibits and rides are being used and when. One way of achieving this is by use of RFID tickets, which can provide real time feedback as visitors move around an attraction."



JOHN DAVIES

Director of UK operations
Omni Ticket

"Operators biggest ticketing concern is getting as many guests into an attraction as possible, in the shortest period of time, while capturing the maximum amount of demographic data for future marketing campaigns, and at the same time controlling all finances.

Guests want the ability to glean as much information as possible about their upcoming visit during the pre-booking process, so they can make an informed decision



on their ticket purchase. On arrival, they want their entry experience to be smooth and trouble-free.

One of the challenges for ticketing companies is second-guessing the next emerging technology, which will require integration into

ticketing. I think the next major step will be greater use of NFC (Near Field Communications – or RFID) capability in mobiles, which lends itself perfectly to contactless ticketing technologies."

"One of the challenges for ticketing companies is trying to second-guess the next emerging technology, which will require integration into ticketing"

OWEN GLEADALL

Managing director
Merlin Software

"The key move in ticketing is the change from box office to online purchasing. Many attractions operators are now looking at their social media strategy and how it relates to these changes.

Attractions operators also want increased functionality, especially in the area of visitor analysis, to inform promotions and marketing initiatives. We're constantly enhancing and upgrading our solution to meet these requirements.

The biggest challenge at the moment is related to new communication technologies and how we keep abreast of all that's happening, particularly regard-



ing smartphones and even intelligent televisions, where the ability to obtain any type of goods and services is going to be almost predominantly electronic. We can envisage this happening, but don't know within what timescale, so our development

work has to be very much a suck-it-and-see process and then hope that we're ready when the big changes come.

With new electronic forms of communication, physical tickets may eventually cease to exist. Cloud based computing will continue to develop and suppliers will have to move to this method of delivery or be left behind."

TICKETING NEWS



Lucky Voice's Queu-eoke is a hit

In line entertainment

To alleviate the boredom of queuing, Thorpe Park is getting the crowd singing. Karaoke club operator Lucky Voice is building a bespoke karaoke unit, following the success of a pilot last year at one ride.

This season, Queu-eoke is appearing at multiple locations around the theme park. Two employees act as hosts, manning the song list and getting the crowd involved. Customers sing together in a chorus, with the help of on-screen karaoke lyrics shown on a big screen mounted to a wall facing the queue and inflatable microphones as props. Customer feedback has been overwhelmingly positive.

Fullers Group chooses Gateway

The New Zealand-based Fullers Group, which operates ferries in Auckland, has chosen Gateway's flagship product, Galaxy, for its ticketing and access control software. By printing tickets on demand, rather than using pre-printed tickets, there's less opportunity for ticket theft or loss.

Galaxy allows F&B products to be integrated, so products can be sold on a single integrated platform. Pass renewal on the eGalaxy Consumer Web Store means regular users won't have to stand in line every month for a ferry pass and the print at home tickets will reduce queues.

Virtual queuing for waterpark

Pennsylvania's largest waterpark, Camelbeach Mountain Waterpark, is introducing the Q-band virtual queuing wristband at 10 of its top slides this summer. The RFID wristband allows guests to queue virtually, after selecting their desired ride from self-service kiosks. They're notified when it's their turn and use a separate entrance to skip the line. ●

Product round-up



The Piaggio unit creates adaptable selling station

Severn Lamb has launched its Piaggio unit – a mobile selling or marketing unit, which can be adapted and customised to suit the attraction. The Piaggio can be used to sell hot and cold food and drink, such as ice cream or coffee, as well as other merchandise. As a unit on wheels, the Piaggio is designed to easily move up and down a queue of people. It can also work as a multimedia point for shows and can be extended upwards to provide standing room, the door openings can be on the sides as well as the back, plus vinyl wrapping and multimedia can be added.

attractions-kit.net **KEYWORD**
severn lamb

Personalised for guest ice cream desserts by Kerry

Kerry Foods is giving family attractions the ability to offer personalised ice creams, with special sauces and toppings. Customers can add their own toppings and operators can create excitement and theatre to the experience. DaVinci Gourmet, part of the Kerry brand, provides dessert sauces and inclusions such as Cookie Crumb and Shortcake Crumble. Operators can also consider incorporating fruit choices into menus to add a healthy option.



attractions-kit.net **KEYWORD**
kerry

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Vizers hats by Sea Thoughts for all ages

Sea Thoughts has launched its Vizers hats for retail, promotional campaigns and staff wear at amusement and water parks. Made from soft EVA material, the hats are colourful and lightweight and designed to be durable. The floating cap has holes in its brim for Jibbitz charms, giving opportunity for additional profit per hat. The product can be mix and matched with other colour straps and is intended for wearers of all ages. Displays for the products can be custom made and supplied for the outlet.



attractions-kit.net **KEYWORD**
sea thoughts

Digital photo booths use social media sharing

Digital Centre America manufactures digital photo booths designed to offer entertainment to the guest, as well as providing an additional revenue stream. The booths are designed to be 'plug in and play', low maintenance, with free software upgrades. Guests can buy various sizes of photos, as well as instantly email them to family or friends, or post them on Facebook or Twitter.



attractions-kit.net **KEYWORD**
digital centre

Product round-up



Integrated entertainment system wood rack designs

Rackz, UK-based 19 inch rack specialist designer, manufacturer and supplier, has expanded its range of wood finish Credenza rack units. The Credenza range is a self-assembly product in Beech, Knotty Oak and Black Ash designs. It's been created for commercial applications and for home entertainment and smart home systems to be combined into an integrated package.

attractions-kit.net KEYWORD
rackz



Maurer finishes Skyloop for Fantawild in Xiamen

Maurer has made the last few preparations to its ninth SkyLoop ride at Fantawild, Xiamen. The doors to the new Fantawild Adventure park in Tong'an, Xiamen, will open this year. Guests will have the chance to experience maximum thrills and a unique guest experience on the Skyloop, which will have the highest inversion in the world, a speed of 105km per hour and extreme accelerations on a compact surface area of 50m by 5m.

attractions-kit.net KEYWORD
maurer

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Syx creates one card for all attractions and more

Syx Automations, Belgium, has created a CityCard that combines visits to museums and attractions and includes public transport. The all-in experience card has been launched in Gent, Belgium, allowing visitors to enter the city's principal museums, other attractions including a boat trip, and public transport without the need for any paper passes. There are two types of cards, one that is valid for 48 hours, another for 72 hours. They cost 25 and 30 Euros. The card comes with a visitors' guide.



attractions-kit.net KEYWORD
syx

Frozen yoghurt store to open at US fun park

Frozen yoghurt specialist SweetFrog will open a shop at the Virginia-based Kings Dominion amusement park in spring 2013. The Richmond, US-based self-serve frozen yogurt company will open its store in the newly expanded Planet Snoopy area of the amusement park, near the re-themed Woodstock Express roller coaster. SweetFrog will offer families a large selection of frozen yogurt flavours including fat free, sugar free, and gluten free options. Toppings include fresh fruit, granola, wet walnuts, crushed candy bars, chocolate, caramel and shredded coconut. The park opened on 29 March.



attractions-kit.net KEYWORD
sweetfrog



Bussink Design creates giant moveable wheel

Bussink Design, based in Switzerland, has installed a transportable giant observation wheel in Munich, Germany. The brand new Observation Wheel R80XL SP reaches 80m (263ft) high. It houses 500,000 LED lights, which can be seen from across the city. The giant observation wheel is available in a stationary semi-transportable version for permanent or long term installation and also in a fully transportable version that comes with a base frame.



attractions-kit.net KEYWORD
bussink design



attractions-kit.net KEYWORD
whitewater

WhiteWater completes SilkGel slide resurfacing

Nessie's Revenge at the West Edmonton Mall's World Waterpark in Canada has had a complete makeover with WhiteWater's new technological innovation, SilkGel. The technology is designed to offer gloss and colour retention and be an eco-friendly, low maintenance product, on which WhiteWater offers a five-year resurfacing warranty against fading and chalking. SilkGel was awarded the Best New Technology Award at IAAPA and was created at WhiteWater's manufacturing facilities in British Columbia, Canada. It offers UV resistance, consistent gloss and allows for resurfacing with new colours.

JPM releases new Casino Crazy Open the Box game

JPM's Category
B4 Casino Crazy

Open the Box

is a new game for casino clubs with features intended to deliver player appeal. The Open The Box feature awards a series of cash offers to the player. Each refused offer causes three of the cash values in the Open The Box area to disappear. If all offers are refused, the player is awarded the cash value revealed when a secret reel is lit.



attractions-kit.net KEYWORD

jpm



Gateway Ticketing part of Crayola Experience refit

Gateway Ticketing Systems is implementing a fully integrated solution for The Crayola Experience's ticketing and access control operations, as part of a major renovation project. Using Gateway's flagship product Galaxy, the US-based Crayola Experience began its operational transformation in February with Point of Sale admissions and a new eGalaxy Consumer Web Store, which enables visitors to buy tickets online and print them at home.

attractions-kit.net KEYWORD
gateway

The WWA hope to break last year's record of 24,873 participants at this year's swimming lesson



THE BIG SWIM

The World's Largest Swimming Lesson takes place on June 18th. The WWA's Aleatha Ezra invites waterpark operators to host an event and help save lives

As we near the start of the summer swimming season, the World's Largest Swimming Lesson™ (WLSL) aims to reach out to families, with the key message that Swimming Lessons Save Lives™.

Drowning remains the leading cause of accidental death of children aged one to five and the second leading cause of accidental death for children aged one to 14. Everyone in the aquatics industry is responsible for working toward eliminating drowning deaths, which has prompted the World Waterpark Association (WWA) and its partners, plus hundreds of host locations, to support the WLSL event each year.

All waterpark operators can host the WLSL on June 18th, and the benefits are numerous. Not only will you draw new visitors to your facility, but your attraction has the potential to receive positive media exposure. If you're worried that you don't have enough qualified life guards, combining resources with local swim clubs or recreation centres could be an option.

RECORD ATTEMPT

On June 18th 2013, waterparks, pools and other aquatic facilities around the globe will host WLSL lessons simultaneously at 11am EDT (5pm CEST, 4pm BST) in an attempt to break the Guinness World Record.

The previous records are: 24,873 participants in 2012; 19,322 participants in 2011; and 3,971 participants in 2010. Countries involved include the USA, the Bahamas, Brazil, Canada, Germany, Lebanon, Mexico, South Korea, the UAE and the UK.

As well as benefiting the WLSL event, a new partnership could be the start of many opportunities for the future.

The WLSL event began in 2010 and many waterparks have run very successful events, including: Wild Wadi, Dubai; Aquaventure at Atlantis the Palm, Dubai; Merlin Entertainment's Alton Towers Waterpark, UK; and Sandcastle Waterpark, Blackpool, UK.

Sandcastle Waterpark worked with local community school groups and a charity that focuses on children with disabilities, resulting in 100 children and parents attending their 2012 WLSL event. Thanks to strong pre-event promotional efforts, through posters and mailers locally, social media, internet banners and waterpark signage, the event received coverage online, on the radio and in local newspapers.

To register your waterpark as a host location, visit WLSL.org by May 19th. The website offers a complete host location guide, key dates, check lists, sample media releases, posters, flyers and promotional materials.

Not only will you be helping people be water safe, you'll be positioning your park as a concerned community leader in water safety. ●



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