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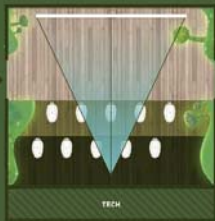
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ATTRACTIONS MANAGEMENT

EDITOR'S LETTER

INSPIRING CHILDREN

In January 2008, the DCMS published the McMaster Review: *Supporting Excellence in the Arts*, a report intended to outline the way forward for the development of our creative industries. The review was carried by Sir Brian McMaster at the request of the then-secretary of state, James Purnell.

In his foreword, McMaster said: "This report is founded on the belief that excellent culture goes to the root of living and is, therefore, relevant to every one of us. Art has never before been so needed to understand the deep complexities of Britain today."

The review went on to recommend the creation of a system of self-assessment and peer review to "encourage and reward excellence, innovation and risk-taking". The DCMS ran a pilot scheme during 2008 and early 2009 at the Natural History Museum, the National Portrait Gallery and the Tyne & Wear Museums. The results have just been published and these will be evaluated with a view to deciding how best to roll out the system across all DCMS-sponsored museums.

The peer review praised the National Portrait Gallery for its high standards and in this issue we talk to Sandy Nairne, director, about how he and his team have worked to create a spirit of excellence within the organisation.

Many museums weren't originally designed to be used by children – they can be intimidating and unwelcoming places and could do much to make their collections more accessible

One group singled out for attention in the McMaster review is young people. McMaster said: "Introducing children and young people to culture at an early age and as frequently as possible is critical. It makes culture familiar [and] it provides a framework for understanding new cultural experiences. We must inspire a new generation of creative, culturally aware and culturally active individuals, giving people the chance to experience the power of culture at an early age."

These are important aims, but it's clear that many museums could still do more to make their collections accessible to children and young people and on page 24 we ask what more museums can do to welcome children.

From the attitudes of staff to the way labels are written, there is much that can be done to involve and welcome children.

We must be aware that many traditional museums were not originally designed to be used by children – they can be intimidating and unwelcoming places for young people. There is much work to be done if we are to achieve the goals set by McMaster while still ensuring that adults who visit don't find their time is upset and disrupted.

The National Portrait Gallery combines facilitated video conferencing for schools with guided visits and outreach programmes and these are the kinds of programmes which can be shared through the peer review process.

Liz Terry, editor, attractions@leisuremedia.com



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p30, how planetariums are getting creative



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p44, inside the redesigned Art Gallery of Ontario



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Four indoor waterpark experts talk design tips and trends, plus a roundup of the latest indoor waterpark news

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Artist and animator J. Walt Adamczyk paints virtual worlds on planetarium domes as part of his Spontaneous Fantasia performances

MUSEUM NEWS



The museum was designed by Ridwan Kamil

New tsunami museum opens in Aceh

A new museum, designed to act as a symbolic reminder of the Asian tsunami in which more than 200,000 people were killed, has been opened by Indonesian president Susilo Bambang Yudhoyono in the city Banda Aceh.

Situated on the northern tip of Sumatra, the province of Aceh was devastated by the 2004 disaster, and is considered to be the nearest land point – and the largest city – to the epicentre of the earthquake that triggered the destructive wave.

The four-storey museum's ground floor has been modelled on a traditional raised Acehese house, which are built on stilts, while the first floor contains an open space, that will also allow floodwater and tidal water to flow through.

Visitors to the museum, built in the shape of a ship, will enter through a narrow corridor between two high waterfalls to simulate the effect of a tsunami, while a memorial room and exhibition hall are situated underground. A prayer room and a conference room have also been created.

Designed by Ridwan Kamil from the Bandung Institute of Technology, the 2,500sq m (26,910sq ft) building will also act as an emergency disaster shelter should a similar event occur in the future. An 'escape hill' has been created to allow local residents to shelter in the event of flooding or another tsunami. The Aceh-Nias Rehabilitation and Reconstruction Agency funded the project, which cost IDR 67bn (£3.9bn, US\$5.6bn, €4.4bn) to build.

Expansion plans for Mississippi Museum

A rough draft for the US\$70m (£47.8m, €57m) expansion of the National Mississippi River Museum & Aquarium in Dubuque, IA, US has been drawn up. The museum's executive director Jerry Enzler said that the plans would be published shortly.

Enzler predicted that the initial designs would be available well before Easter. "They won't be the final drafts, but we will know where everything is going to be," he added.

The project will involve doubling the size of the existing museum and is expected to open in 2010.

Neues Museum restoration unveiled

The Neues Museum in Berlin briefly reopened earlier this month in order to showcase the €200m (£185m, US\$250m) restoration work that has been completed over the past 10 years. The museum is currently empty, and is due to reopen in October 2009, when it will again house Berlin's Egyptian collection – including the 3,300-year-old bust of queen Nefertiti – and Berlin's Museum of Prehistory and Early History.

The site has been closed since 1939, before the outbreak of WWII, when its contents were put into storage.

US museums thrive in spite of economy

US museums are doing well despite the current economic climate, according to a report on forbestraveler.com.

The website reported that the Smithsonian's Air and Space Museum in Washington D.C. has seen attendance jump by two million visitors to seven million in 2008, and came joint first on Forbes Traveler's most-visited list.

It was tied with the Smithsonian's National Museum of Natural History, also located in the US capital.

The National Gallery of Art, a Smithsonian affiliate institution, also in

Washington D.C., came in at third with 3.96 million visitors. The Metropolitan Museum in New York came in at fourth with 4.7 million visits and New York's American Museum of Natural History came rounded out the top five with four million visitors.

Museums across the top 25 list saw improved visitor ratings or at the very least kept pace with the year before.

Nancy O'Shea, spokesperson for Chicago's Field Museum, which attracted 1.4 million visitors, said: "High gas prices in 2008 had some impact, but overall our attendance was higher than we projected."



The Smithsonian saw an increase in visits

HERITAGE NEWS



The Scottish Portrait Gallery was among the institutions to receive a grant

UK heritage schemes secure £21m

Six major projects at heritage sites across the UK are in line to receive a share of a funding package worth £21m following the Heritage Lottery Fund's (HLF) latest round of confirmed awards.

Three further schemes have also been awarded first-round passes by the funding organisation, which indicates initial support for plans that will now be able to progress to the next stage of development ahead of a final decision.

Among the six projects to benefit from the confirmed awards is the Scottish

National Portrait Gallery in Edinburgh, Scotland, which has been awarded £4.53m grant towards a scheme which will double the gallery space at the attraction.

A scheme to develop a park at Castle Hill, incorporating the repair of the Knox Hannyington towers, and the revamp of historic Ranfurly House in Dungannon, Northern Ireland, has been awarded £2.24m, and the establishment of a new 'Experience Barnsley' museum and archives centre in Yorkshire England has secured £2.6m funding.

Funding boost for revolution museum

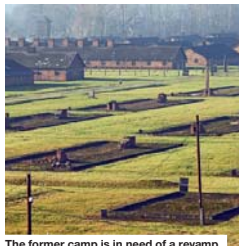
Entrepreneur H.F. "Gerry" Lenfest, the man behind the proposals to build the American Revolution Center at Valley Forge, Pennsylvania, US has announced that the project is to receive a \$13m (£9.1m, €10.2m) funding boost. Of the US\$13m, a total of US\$8m (£5.6m, 6.3m euro) will be provided by the Redevelopment Capital Assistance Program (RCAP) of the state of Pennsylvania, while Lenfest will provide the remaining US\$5m (£3.5m, €3.9m).

The funds will support the first phase of a museum and education center devoted to the American Revolution and its legacy. It is hoped that the project will encourage heritage tourism and spur economic development to the region.

Located on the banks of the Schuylkill River, The American Revolution Center will be the first centre dedicated to exploring and interpreting the story of the American Revolution. The museum will display a collection of objects, manuscripts, and artifacts from the period.

Urgent restoration call for Auschwitz

The Auschwitz-Birkenau concentration camp in Poland is in urgent need of a huge restoration fund to prevent the landmark holocaust site from crumbling into the ground. A foundation was established in January to campaign leaders in Europe



The former camp is in need of a revamp

to donate money towards a 120m euro (£110m) Perpetual Fund to help conserve the WWII memorial to human tragedy for the education of future generations.

The capital will be invested and ring-fenced by the Foundation, while the €5m (£4.6m) accrued in annual interest will help pay for essential preservation work of the 200-hectare site.

A team of professional conservation experts will restore the 155 buildings, including blocks, barracks and guard towers, as well as the 300 ruins, such as the infamous gas chambers and crematoria, from soil erosion and water damage caused by the marshy land.

The SS archives and the museum collection – which includes shoes, hair and glasses taken from the 1.1 million people who died in the death camp between 1940 and 1945 – will also undergo conservation.



The winning designs

Architects picked for Danish museum

The development of the new Randers Museum of Art in Denmark has progressed further with the appointment of Copenhagen-based 3XN architects.

The 7,550sq m museum will be built as a landmark at the entrance to the town of Randers, situated alongside the Guden River, and will house three exhibition galleries, an auditorium, a café and a boutique all on one level.

WATERPARK NEWS



The first phase of attractions will include 24 slides and chutes

Schlitterbahn set for Kansas launch

The US\$750m (£538m) Schlitterbahn Vacation Village Waterpark is set to open in Kansas City, Kansas, US, this summer.

The first phase of attractions will include 24 slides and chutes, including a 42-foot high Bahnzai Pipeline, a dark and warped Black Knight ride and the fast-flowing Blitz Falls Tube Chute. Other elements will include the giant Henry's Hideout Hot Tub Bar with a swim-up bar and the slow-flowing Kristal River lapping onto Kristal Beach.

In contrast, Torrent River will offer visitors the world's longest tidal wave river with continuous ocean-sized waves beating the sands of Torrent Beach.

The Kinderhaven Kids' Area will provide a calmer central area for families with smaller children, with its shallow water playground and ten mini-slides surrounded by shaded seating and open-sun lounging areas. An innovative attraction is the park's concept of a floating queue, allowing park goers to bob in tubes from one attraction to the next through a series of interconnected slides, chutes and rivers.



Aleatha Ezra

Navigating the rough waters

There is no arguing that the economic downturn is affecting most industries at various

levels, including the leisure industry. Due to shrinking financial and investment options, new waterpark resort projects are on hold in the US, Canada, Australia and even Dubai, the Mecca of large-scale leisure development over the last few years.

So, what can waterpark managers currently operating do to safeguard and strengthen their place in the global market during these tough times? Curt Caffey, Vice President and Managing Director for CNL Lifestyle Company, LLC, offers advice on weathering the current rough waters. He recommends that operators should create a detailed budget – and stick to it. Whether it's fixed expenses like utilities and labour or variable expenses like marketing and advertising, it's imperative to have flexibility in daily operations.

Caffey also says adapting to market conditions is imperative. During uncertain economic times, there's more "staycation" activity, or local leisure spending by families who wish to experience a vacation.

And always negotiate everything. Whether you're negotiating interest rates with your food purveyor or advertising rates with your local newspaper, be sure to take advantage of opportunities that can save you money.

Aleatha Ezra is the membership manager of the World Waterpark Association

Cairns waterpark plans unveiled

Detailed plans for a new waterpark to be located 12km north of Cairns, Australia, have been submitted to the Cairns Regional Council.

The AUD\$30m (US\$21m, £14.4m, €15.4m) waterpark was originally set to be called Adventure Mountain. It has, however, since been renamed Adventure Waters, which CEO Paul Freebody said has 'a stronger synergy with the water park industries'.

The proposed development will include a total of 16 water slides as well as restaurants and cafes, retail outlets and function rooms.

The company hopes to attract around 248,500 visitors each year and is expecting to generate an estimated AUD\$11.1m (US\$7.7m, £5.3m, €5.7m) through entry fees and food, beverage and other secondary sales.



The park spreads over 17 acres

Ohio park to reopen with new facilities

Geauga Lake's Wildwater Kingdom waterpark in Aurora, Ohio, US, is to reopen for the summer season with some new attractions.

The 17-acre, Cedar Fair-owned park will feature a new Waterfront Plaza – a landscaped area with 100 lounge chairs, food carts and a dining area.

There park has also invested in a new area for private and corporate parties, called the Island Oasis Party Cabana. The park will reopen on 23 May.

GALLERY NEWS

MAXXI art museum to open in Rome

Italy's newest art gallery, Museo Nazionale delle Arti del XXI Secolo (MAXXI) in Rome, is set for a 2009 launch.

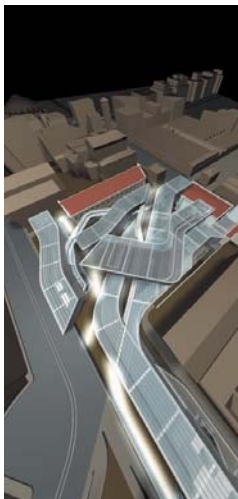
Zaha Hadid Architects have designed the museum to be reminiscent of an 'urban campus', a building that goes beyond interior spaces to include the entire city.

The project includes two museums – MAXXI art and MAXXI architecture – which will revolve around a full-height grand hall that connects with a reception area, cafeteria, bookshop, educational spaces, auditorium, live events halls, temporary exhibition galleries and galleries containing permanent graphics and photography collections.

The design features complex shapes and overlapping dimensions, achieve a complex spatial and functional structure.

Zaha Hadid's 26,000sq m (280,000sq ft) scheme for MAXXI was chosen through an international competition in 1998.

The museum aims to offer a programme of flexible, interdisciplinary exhibitions for the showcasing of a mixture of contemporary art, architecture and live events.



The museum has been designed by Zaha Hadid

Whitechapel Gallery reopens

The completed £13.5m expansion of east London's Whitechapel Gallery in the UK opened on 5 April.

The gallery, redesigned by Belgian architects Robbrecht & Daem and Witherford Watson Mann, is almost double the size after it merged with the adjacent Passmore Edwards library, increasing the 3,000sq ft space by 78 per cent.

New features include three galleries dedicated to international art collections, new art commissioned by the gallery's trust and an archive collection and a research room to document the last 100 years of the gallery and local area. Other new facilities consist of an education and research tower for local school and community groups as well as a street-facing café. Contractor Wallis,

PHOTO: RICHARD BRYANT 2009



The project cost £13.5m

who worked on the redevelopment of the V&A Museum of Childhood, is carrying out the construction work.

The project is being funded by the Heritage Lottery Fund, the London Borough of Tower Hamlets, Arts Council, the European Regional Development fund and the London Development Agency.


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THEME PARK NEWS



The park will include a museum on slavery

Slavery theme park planned

US-based Motherland Group (TMG) has announced plans to build a US\$3.4bn (£2.4bn, €2.63bn) theme park commemorating the slave trade in the historic port town of Badagry in Nigeria.

The Badagry Historical Resort Development Project – which is being financially supported by former Jackson 5 singer Marlon – will include a museum on slavery and a life-size replica of a slave ship. The visitor attraction will also feature an amphitheatre, a music pavilion, golf course, soccer field, casino, shops, hotel and condominiums, as well as a collection of Jackson 5 memorabilia.

Gary Loster, CEO of TMG, said: "The Jackson family had been looking for a place to site their memorabilia collection for some time. We visited the slave port in Badagry and Marlon turned to me and said: 'Let's put it here, this is right'."

However, the project has already caused controversy in Africa and the US.

Professor Toyin Falola, a historian at the University of Texas, described the scheme as a "crude capitalist venture promoted as a heritage-based attraction".

Roman theme park plans move ahead

Plans for a new theme park in Rome, Italy, depicting life in the city 2,000 years ago, are moving ahead.

As reported in *Attractions Management* last year, Rome's deputy mayor Mauro Cutrufo announced that the new attraction would be themed to give visitors a chance to view the city's ancient landmarks as they were during the time of the Roman Empire.

City officials announced that the project will be built on 650-acre (263 hectare) site in Rome's Castel Romano suburb, partially on land belonging to the former Dino film studios, which is currently owned by Cinecitta Entertainment.

Cinecitta's CEO and president, Luigi Abete, is confident that the project would get off the ground in the next few months and that initial designs will shortly follow.

The scheme has been given the working name of Cinecitta World.

The park, which could cost between €700m and €800m (£555m-£634m, US\$930m-US\$1.1bn), has an estimated completion date of 2013.

F1-X theme park on hold

Middle Eastern investment company Union Properties has put the brakes on the construction of its Formula One World theme park in Dubai.

The F1-X project – under development in partnership with the Formula One Administration (FOA) team – has been suspended until next year owing to the negative knock-on effects of the current financial crisis.

Penny Fischer, marketing director for F1-X, explained: "The suspension will delay the opening of the Formula One entertainment concept until 2010."

"With construction 50 per cent completed and operational plans drawn up, it is hard to believe that a financial partner will not come forward and capitalise on the opportunity."

Cedar Fair considers sale

Ohio, US-based Cedar Fair Entertainment has announced plans to potentially sell a selection of its amusement parks and to cut its dividend in a bid to reduce debt during the economic downturn.

Potential sales ride on its Worlds of Fun park in Kansas City, Missouri, and Valleyfair

in Shakopee, Minnesota, as well as its Great America entertainment park in Santa Clara, California, to the San Francisco 49ers football team for use as a stadium parking site. In addition, the entertainment company aims to reduce its debt by US\$200m (£145m) over the next three fiscal years by cutting its quarterly payout from 48 to 25 cents (35 to 18 pence) a share, which is expected to be declared in the second quarter of 2009.

"Although Cedar Fair has continued to report solid earnings with some of the best operating margins among regional amusement parks, the board of directors is taking this action in order to retain additional cash flow," explained CEO Dick Kinzel.

"The macro environment requires us to ensure the distribution of cash to our unit holders with the strategic objective of strengthening our balance sheet."



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THEME PARK NEWS



The park opened to the public in May 2005 amid much fanfare

HK Disneyland expansion put on hold

Plans for the expansion of Hong Kong Disneyland (HKDL) have been put on hold following an announcement from Walt Disney Company that it had failed to reach a deal with the region's government.

The theme park operator revealed that the decision to suspend the creative and design work involved in the expansion scheme is set to result in the loss of around 30 Hong Kong-based jobs.

However, a spokesperson for HKDL said that negotiations are continuing with the Hong Kong Special Administrative Region

government to progress the expansion project, while the company insisted that it remains committed to the resort.

In a statement, executive vice president of Walt Disney Parks and Resorts' worldwide public affairs, Leslie Goodman, said: "After two years of Disney investment in creative and design work and extensive negotiations with our partner, the Hong Kong government, we have not yet reached a final agreement to expand HKDL."

HKDL is a joint venture between Disney and the Hong Kong government.

Comic-themed park opens in Jahra

A new theme park based on a Kuwaiti comic book series has opened at the Slayel Al-Jahra Resort in Jahra.

"The 99" park, based on the Teshkeel Comics' publication of the same name, is a joint venture between Kuwait-based Teshkeel Media Group and the United Entertainment and Tourism Company (UETC).

The park features rides based on characters from the series, including Jabbar's Chariot Riders (a train-ride), an aeroplane ride named after Rafie, who can fly, and a swinging Viking ship called Journey of the Noor Stones. The two companies plan to roll the concept out by opening a new theme park each year for the next six years - although there are no further details on possible locations.

Dr Naif Al-Mutawa, founder of the Teshkeel Group, told the *Kuwait Times*: "Seeing our characters transformed from 2D drawings into a real-world setting is not only a dream come true for me, but also an indicator of the tremendous growth potential for the 99 brand."

Legoland launches new attractions

Legoland California has celebrated its 10th anniversary, launching a new 4D attraction and announcing that it will build a new slide.

The Carlsbad US-based theme park, owned by Merlin Entertainment, launched its new "Bob the Builder and the Rollercoaster" 4D attraction, a 10-minute film that uses computer-generated animation with special effects such as wind and mist, at its 10th anniversary celebrations.

Merlin Entertainment also announced the addition of a fifth attraction to its Land of Adventure called Dune Raiders. The theme ride will include an Egyptian-bazaar themed, 30ft-high, six-lane slide that will open in time for 4 July.

Vertigo to add casino to Columbia park

Vertigo Theme Parks (VTP), the operator of the Vertigo Theme Park in the city of Buga, Colombia, has announced that it will open a fully licensed casino at the site.

The 150,000sq ft casino will be one of the first to be located within the gates of

a theme park anywhere around the world, and will include high-stake, Las Vegas style gaming tables and card rooms as well as slot and gaming machines.

Kevin Johnson, chief executive of VTP, said the casino will be managed by an external operator under a facility management agreement.

He said: "The casino will operate within the Free Zone territory of the park and with a special governmental decree it will enjoy advantageous taxation status, which will allow the overall operation of the Buga Theme Park to become even more profitable."

VTP, which has its head offices in Boca Raton, Florida, US, currently only operates the Buga site but plans to roll out its theme park concept across the globe.

It has plans to open seven new Vertigo-branded parks in seven years.



The casino will be within the park gates

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BALPPA NEWS



Plans include a number of new rides and attractions

New heritage theme park for Margate

The Dreamland Trust is to unveil its plans to establish the world's first heritage amusement park in Margate, Kent, UK, on the site of the former Dreamland Amusement Park.

Levitt Bernstein Architects, together with Paris-based park designer Jean-Marc Toussaint, is behind designs for the proposed £12m attraction, which will be built around the Grade II-listed scenic railway, one of the oldest rollercoasters in Britain.

The trust, which administers the Save Dreamland Campaign, first unveiled plans for the amusement park in 2007.

Nick Laister, chair of the Dreamland Trust, said: "We were successful in winning a DCMS 'Sea Change' grant last year and, with additional funding from Dreamland's owners, Margate Town Centre Regeneration Company, we have been able to appoint specialist advisers who are starting to bring our plans to reality."



Colin Dawson

When the going gets tough...

Accepting the risk of sounding too complacent, I really believe the tourism sector will handle the downturn better than many others.

The reports I'm hearing from around the UK suggest domestic tourism will benefit, illustrated by the significant increase in bookings for self-catering holidays and resort hotels. VisitBritain reported that a recent survey confirmed UK citizens consider holidays sacrosanct and will protect them at all costs.

This may mean overseas holidays will still be on the agenda for some, but as the pressures on family budgets increase, "staycations" may offer a more realistic alternative.

BALPPA members are promoting "It's Great in Britain" as a theme, supported by a logo and website. We're also grateful for the support of other associations who are encouraging their members to use the logo.

The list of new 2009 capital investment projects for BALPPA members also shows the confidence of our industry: a record-breaking steel coaster for Flamingo Land, a year-round indoor water attraction for Gulliver's World, another new coaster for Thorpe Park, a 4D cinema and restaurant for Drayton Manor, Merlin's refurbishment of the London Aquarium, and the redevelopment of Grand Pier Weston Super Mare.

So let's get going and prove the adage rings true.

Colin Dawson, chief executive, BALPPA

Dawson to retire from BALPPA

Colin Dawson, chief executive of BALPPA, has announced that he will retire from the post in July 2010.

Dawson has been the association's chief executive since 2001. He first joined BALPPA's management committee in 1991, after being appointed director of Thorpe Park in 1988.

Commenting on his tenure at BALPPA and his career, Dawson said his only regret was that it took him so long to find the attractions industry from his previous occupations.

"The last twenty years have been the most rewarding and enjoyable of my business career, which began in August 1958," he said.

John Bollom, BALPPA chair, said: "Colin has guided the association for the last eight years, giving a period of stability and achievement in all aspects."



The Drayton Manor team on opening day

4D theatre opens at Drayton Manor

Drayton Manor theme park in Staffordshire, UK, has opened a 4D effects theatre in time for the beginning of the 2009 season.

Supplied by Simworx, the theatre, which will be housed in an existing building at the park, offers 3D imagery alongside special effects lighting and Simworx's Dimensions 4D effects seats.

As well as moving seats, further effects include water spray, air blast, leg ticklers, aroma, low smoke and bubbles.



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ZOO & AQUARIUM NEWS



The aquarium now boasts more than 500 species

London Aquarium revamp complete

The £5m revamp of the London Aquarium has been completed and the attraction rebranded under Merlin Entertainments Group's SEA LIFE banner, which acquired the aquarium in May 2008.

Following a six-month transformation, the attraction, situated by the River Thames, features an underwater glass tunnel walkway and offers visitors the opportunity to feed stingrays, to watch diving displays and interact with touch pools and discov-

ery zones. Spread over three floors and 14 themed zones, the aquarium now holds 500 different species.

General manager, Toby Forer, said: "The result is an immersive and exciting marine journey with coral caves, a Pacific shipwreck and a dive school. Our ultimate aim is to tell a serious eco story in an entertaining way and we believe we have done this through a blend of visual spectacle, interactivity and access to aquatic experts."

New zoo and park for Manila

A new zoo and theme park complex is being planned for Manila in the Philippines.

Manila's mayor, Alfredo Lim, announced that his parks and recreation bureau's chief engineer, Deng Manimbo, had been appointed to flesh out the plan with Japanese theme park company Okamoto.

The theme park, completely funded by Okamoto, would be built on a 4,000sq m (43,000sq ft) lot adjacent to the existing Manila Zoological and Botanical Garden, and under terms of the agreement, the Japanese firm would fund a refurbishment of the zoo.

Despite putting no money in, the city will receive half of revenue generated by admission fees. The mayor said he believed the theme park would be open by the end of the year.



The late Steve Irwin

Irwin's zoo named top Aussie attraction

Australia Zoo in Queensland, founded by the late Steve Irwin's father in 1970, has been named best major tourist attraction at the Qantas Australian Tourism Awards (QATAs). Winners were announced from 27 categories, including two new awards for this year, the Qantas Award for Excellence in Sustainable Tourism and an Award for Outstanding Contribution by an Individual.

Skyrail Rainforest Cableway was the winner of the Sustainable Tourism Award.



New gallery for Florida Aquarium

The Florida Aquarium in Tampa Bay, US, has opened its new interactive Ocean Commotion exhibit which mixes audio visual content with live exhibits.

Visitors to the gallery will come into contact with Raldo, an animated shark reporter, which will interview six nominees for the "Golden Gill Award" – a mandarin fish, spider crab, clown fish, octopus, rhinopias, and mantis shrimp. Each "interviewee" is a real creature in its own exhibit.

Electrosonic provided the exhibit's tanks with large LCD monitors to display the animated content. The video feed is provided from an equipment rack using video players.

Content will also be transmitted onto specially designed walls of mist, supplied by Finland-based Fogscreen.

Visitors will be able to use their hands to touch the animated creatures in the underwater display, triggering informational pop-ups and prompting various real-world behaviors – a dolphin comes when called then solicits a belly rub, spins and chatters. This touch technology was supplied by Georgia, US-based Playmotion.

The aquarium's director of exhibits, Pete Colangelo, said: "Visitors get a sense of the characteristics of each creature through their animated counterparts. That's what makes the gallery unique." First opened in March 1995, the 250,000sq ft (23,200sq m) aquarium is home to more than 20,000 aquatic plants and animals.

SCIENCE CENTRE NEWS



The museum is currently undergoing a £15m revamp and is due to open later this year

Museum faces creationist threat

A member of the Northern Ireland Assembly is threatening legal action against Ulster Museum in Belfast if it refuses to showcase a display on creationism alongside its exhibition on Charles Darwin.

Born-again Christian Mervyn Storey, of the Democratic Unionist Party (DUP), has demanded that the museum include an explanation of the origin of life according to Genesis as part of its proposed programme on evolution and fossils.

He has argued that the publicly funded museum should be subject to the prov-

ince's equality legislation, and thereby represent the beginning of humankind from both perspectives.

Storey said: "When I've written to the museum about the necessity to show the public an alternative to Darwin's theory, they have been quite dismissive. They could be subject to a legal challenge under equality legislation."

A museum spokesperson responded: "We will explain the conventional scientific theories internationally accepted by scholars and scientists to describe life on earth."

Science Oxford reopens following revamp

Science Oxford Live, a new cultural centre for science and enterprise in Oxfordshire, has opened to the public following a £250,000 refurbishment.

The ground floor of the redeveloped venue, which has been closed for the last two months while work has been car-

ried out, offers a meeting area, a chill out refreshment area and a permanent exhibition space for adults and older children.

A discovery zone for children and families features hands-on activities, while the first floor incorporates the exchange zone, a performance space which will host a regular series of events for adults and families.

The refurbishment programme at Science Oxford Live, which is part of the Science Oxford family of brands, has been carried out by Leicester-based museum and exhibition designers Haley Sharpe, and has been funded from reserves. Science Oxford is the public face of The Oxford Trust charitable organisation.

The trust has ambitious plans to create a "world-class cultural centre" for science and has pledged to invest and partner with companies which carry out innovative approaches to public engagement.



The refurbishment cost £250,000



Fiorenzo Galli

We welcome Ecsite to Milan

The National Museum of Science and Technology Leonardo da Vinci is hosting the Ecsite Annual Conference on 4-6 June 2009. The Conference will celebrate the 20 years of Ecsite and will also be the occasion to reflect on the evolution and revolutions of our field, which make us what we are today.

The strategic vision of our museum can be condensed in a sentence - "Science is Culture". The reference to da Vinci, to art and science, and to the combination of scientific and humanistic knowledge should be considered in this perspective.

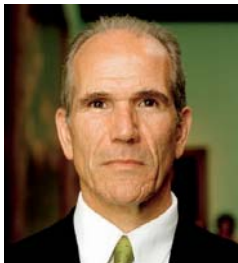
The museum offers a range of educational activities in its historical galleries and interactive labs with the aim of inspiring visitors at a physical, cognitive and emotional level. Our museum conceives visitors as protagonists of their own experience, offering them a variety of tools for interpretation, such as experimentation, storytelling, exhibits and the original historical object itself. We aim to contribute to the cultural experience of informed and responsible citizens. In the coming months we will engage in many different projects, opening new sections and interactive areas.

This year's Ecsite Conference will be the occasion to look back and ahead, to build collaborations and work together building the future with an inspired positive spirit.

Fiorenzo Galli is director of the National Museum of Science and Technology Leonardo da Vinci, Milano, Italy

SANDY NAIRNE

A DCMS review, published this month, says the National Portrait Gallery is a 'nimble, creative, fast moving and aspirational organisation'. We talk to its director, Sandy Nairne, about how this level of excellence has been achieved



Being one of the first museums to be scrutinised by the DCMS Peer Review must have been a daunting prospect, but it seems director Sandy Nairne relished the challenge and the National Portrait Gallery impressed reviewers with its vision, energy and outreach programmes.

The reviews are being undertaken as a result of Sir Brian McMaster's report *Excellence in the Arts*. "McMaster's big message to government was 'you have to

promote excellence,'" says Nairne, "access is great, but you won't get the access unless you have excellence in the arts."

There's no doubting Nairne's commitment to this aim. The government gives £7m a year to the Gallery, it then raises a further £7m directly. "I could run a very quiet, well-behaved National Portrait Gallery for £7m," says Nairne. "But it wouldn't be one you'd want to come and visit. The reason we work to earn extra money is precisely because we

want to do all the things that make it exciting and interesting." In this vein, 2012 will be a big year, with an exhibition to celebrate the London 2012 Olympics, a collection of Lucian Freud's portraits, and a '60 Images for 60 Years' exhibition to mark the Queen's Diamond Jubilee.

Nairne is lobbying for more government support, noting the Gallery gets the lowest level of funding per visitor of all the national collections. Its submission to the Peer Review says: "The Gallery feels very strongly that its core support is inadequate when set against its current outputs and achievement, and that its work represents a positive opportunity for government to invest in order to gain additional and exceptional public value."

"It's a difficult time for government – propping up the banks," he says. "We can't be naïve about it, but it's appropriate for us to ask how we can work together to interest more people in culture and the arts."

Nairne is now in his seventh year as director and is getting ready to present strategic plans for the next seven to the museum's trustees. He says there's no need for radical change, more a determination to build on the current success which has seen numbers double in the last six years to 1.8 million.

The Gallery offers six temporary exhibitions a year in addition to giving access to works from its core collection of 10,000 portraits and the 300,000 in its reference collection. Recent successes include an exhibition of work by photographer Annie Liebovitz and a collaboration with *Vanity Fair* – high-profile shows that drew large crowds.

Nairne is delighted by the popular appeal of these headline grabbers, but is keen to stress that they're underpinned by strong curatorial work: "*Vanity Fair* could have gone to any museum in the world," he says. "The reason they came to us was because we've got the top photographic curator in portraiture, Terence Pepper. They trusted we could provide Terence as the collaborator and do



Interactives are designed and positioned to ensure they support rather than overpower the exhibits



"We're modest in space," says Nairne, "And there's a kind of intimacy to that."

"I COULD RUN A QUIET, WELL-BEHAVED GALLERY FOR £7M A YEAR, BUT IT WOULDN'T BE ONE YOU WANT TO VISIT. WE RAISE EXTRA MONEY TO DO EXCITING, INTERESTING THINGS"

the publishing around the exhibition. You can do whatever fancy things you like, but you won't do them successfully unless you have in-depth knowledge and expertise."

INTERNATIONAL OUTREACH

Vanity Fair drew 130,000 visitors in London, and has since been on tour to Edinburgh, Los Angeles and Canberra with a final show just announced for Toronto. "We wanted to do a great international show," says Nairne, "and it's crazy to do a show in just one place if you can share it." The publishing collaboration was also a great success and the accompanying book sold over 70,000 copies. "The exhibition drives sales and six to seven per cent of visitors will buy a book," he says.

Not all shows can be headline grabbing however, and creating exhibitions dedicated to lesser known artists and subjects and raising their profile as a result is exactly what the National Portrait Gallery loves doing, according to Nairne. This was the case with 2008's *Brilliant Women*, a free exhibition about the 18th century *Bluestockings* which mixed portraits and biographical information of women mostly known in academic circles. It ended up drawing over 100,000 visitors. "We had a fantastic response," says Nairne. "We enjoy building a marketing campaign and trying to overcome people's reservations. We work to

find the story and narratives that makes people think 'well, maybe I would like it.'"

Engaging the widest possible audience is a major aim and focus groups of non-visitors have been followed up to establish their reaction before and after their first visit. This research may confirm the view on the street of the Gallery as stuffy and boring. Nairne says: "As soon as we show them the startlingly beautiful Tudor portraits, or our more unusual, exciting contemporary work, like David Beckham asleep in his video portrait, they're completely transformed in their view."

"The Gallery also concentrates on offering a welcoming environment and making sure visitors get good information, are supported in their visits and orientated with the portraits which grace the walls." This approach is noted by the Peer Review which says:

"There's a clear sense that senior management regard learning as a core element of the Gallery's mission to share knowledge and understanding about the collection."

Targeted community outreach work is also important, Nairne says. "You may only be able to engage 50 people in a participative project, but once you see it working, that level of engagement is fantastic and it makes these programmes invaluable."

"One initiative saw families from Hackney working with a ceramicist to create beautiful

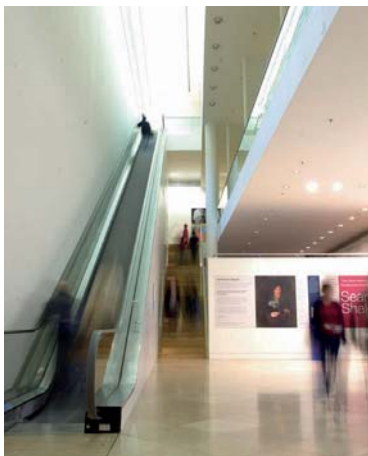
ceramic self-portraits, some of which were displayed in the Gallery. They wouldn't have visited otherwise," says Nairne.

"I visited a photography course for seniors at the Blackfriars Settlement community centre. There were 70-year-olds doing a portrait photography workshop followed by a museum visit and follow-up workshop. They were learning about using cameras in ways they'd never done before," he says.

Young people under 30 are also targeted, with exhibitions like Mario Testino and *Face of Fashion*. "Face of Fashion was a cutting edge exhibition looking at the crossovers between portraiture and fashion, with seven top photographers from around the world," says Nairne. "We worked hard to promote it to younger visitors. The challenge then was to get them back, so we were careful about what we had on display when they visited."

"We welcome about 80-90,000 school and college students each year," he continues, "There's so much to see that we encourage study visits at different times and we have a promotional booklet that goes out to schools to explain what we have on offer."

"We also support schools that can't visit," Nairne says. "We have a mini studio, which enables us to interact with children in the classroom using video conferencing and facilitators. Netstreaming is expensive, but



(Left) The Gallery is next to Trafalgar Square in central London, ensuring easy access. (Right) The Ondaatje Wing.

video conferencing is cheap and easy to do.

"The web will increasingly be a big part of what we do," he adds. "We had 14 million online visitors in 2008 and along with nine other national museums, we're part of the Learning Online initiative, led by the V&A, to develop WebQuests which allow young people to explore art through online tasks. I believe the web can become even more of an educational resource," he says.

With all the work to increase visitation, a major challenge is managing crowds, particularly on Saturdays. One solution, tested during the Liebovitz exhibition, has been to offer early morning discounts at the beginning of the week. "It was a success, and we think we should go further," says Nairne. The Gallery also opens late on Thursdays and Fridays – a move popular with visitors.

So when will the museum reach capacity? Nairne laughs. "Unless we change the hours, it would be difficult to get over two million. If I could find the right sponsor, I'd open on Saturday nights, but I don't want to be in a position where people say 'the Portrait Gallery's so crowded you can't see the pictures.' The truth is we're pretty comfortable between 1.6 million and 1.8 million – not because we're complacent, but we're interested in varying our range of visitors and then doing more outreach work around the country.

The Gallery already lends to other institutions; even its fragile Holbein drawing of Henry VIII was loaned once, to Tate Britain. But Nairne is working to do more to share

the collection around the country, building on a partnership with the National Trust. "That way, we can take portraits to people rather than the expecting people to come to the portraits," he says.

Will the Gallery develop overseas like the Louvre and the Guggenheim? "It's unlikely," Nairne says, "because the museums which have made a success of it have done it off the back of a dedicated brand. I'm not rushing off to Abu Dhabi, although I'd be happy if some of our collections were exhibited there at some point. We're more interested in sharing our work with other museums, rather than actually making other museums."

BUILDING ON SUCCESS

Nairne got his start at the Museum of Modern Art in Oxford in the 1970s and worked with Nicholas Serota on the opening of the Tate Modern and the restructuring of Tate Britain as Director of Programmes. "When I arrived at the National Portrait Gallery, I walked into something that was already a considerable success," he says, "and I was very aware of building on what had already been done by my predecessor Charles Saumarez Smith."

Still, as the increased numbers show, Nairne has put his stamp on the Gallery: "It's partly been about going back to the core

business; raising money to increase our ability to make great acquisitions and creating a fund to enable us to do more."

Also important is ensuring the Gallery preserves a contingency fund over the next few years. "The corporate sector is having a hard time," says Nairne, "our current exhibition – Gerhard Richter – was supposed to have been sponsored by Lehman Brothers, so when they went into receivership, that was nearly £175,000 gone from the budget overnight." Once Lehman had gone, it was too late to arrange another sponsor, but the contingency system meant the exhibition didn't have to change. "It would have been the worst thing if we'd been forced to reduce it in some way," he says.

One of Nairne's most important jobs is commissioning new portraits, and in keeping with one of the Gallery's founding principles, the sitter is chosen before the artist. The Gallery has always acquired more photographs than paintings, "but it doesn't take away from the passion we have for painters and sculptors," he says. "We'll commission five or six new painted or sculpted portraits each year, as well as photographic portraits." Digital works, such as Michael Craig-Martin's Zaha Hadid, are also now commissioned.

Has Nairne had his portrait painted? The Gallery director laughs – no. "I think on the whole I'm happy organising for other people to have their portraits done," he says. ●

Andrea Jezovitz and Liz Terry

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attractions management asks

SHOULD MUSEUMS BE MORE ACCESSIBLE TO CHILDREN?

When competing for visitors, attractions work to make themselves accessible to as wide an audience as possible. But while many invest in multilingual audio guides, exotic food and drink solutions and accessibility, they may just be overlooking the smaller guests. Tom Walker asks experts whether museums are making the effort for kids – and if not, how could they improve?



DEA BIRKETT

Director
Kids in Museums

I often get asked questions like 'Should museums be more child friendly?' or 'Should all museums welcome children?' I always return the question with something half way between a look of puzzlement and a frown. Substitute any word for another section of society apart from 'children', and the question becomes absurd. Surely everyone should feel welcome in Britain's museums and galleries?

There are so many arguments why we should welcome children to museums. One obvious one is that if you don't get the children, you don't get the adults. We were all young once. And if you ask any grown-up museum-goer what makes them return, they will tell you about their 'museum moment' – a time when they visited a museum as a child and saw or experienced something unforgettable.

The most important reason to include children, however, is that they make a museum more exciting, vibrant and future-facing. They bring museums alive. Young people introduce debate and discussion – sometimes noisy discussion – into the

heart of the museum experience, which is exactly where it should be. They inject enthusiasm and vigour. Many of our great museums were founded in response to new ways of thinking, such as Darwinism. This role of a museum as a debating chamber for fresh ideas should be fostered and welcomed.

And how can this be achieved? By never saying "Sssshhhh..." And, of course, signing up to then implementing the Kids in Museums Manifesto, drawn up from comments by young and family visitors. In other words, by listening to young people about what makes it work for them.



KIM STREETS

Director of Learning
and Knowledge
Museums Sheffield,
Weston Park

The success at Weston Park is down to the fact that we started by putting families at the centre of what we wanted to do with the site.

We were, of course, in a privileged position, being able to redevelop the whole building and its contents. This opportunity enabled us to have a good look at who the key audiences for the site and the collec-

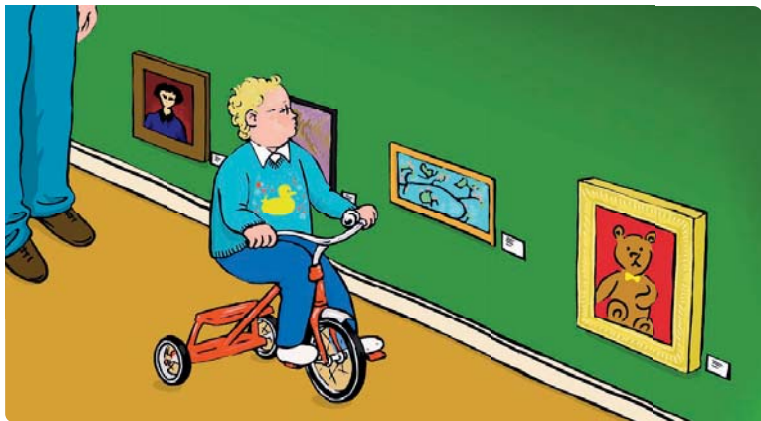
tion were – and families came highest in the list of target audiences.

Our philosophy now is "family matters". We've generated a space that our audience feels that is created for them. The key to doing this was the ability to have a thorough consultation with the audience during the planning stage. Local school-children were just one of the groups we used to help us to find out what they wanted to experience at Weston Park.

To pick an example, our Arctic World gallery was pretty much entirely designed by local children. We found out that our polar bear, called Snowy, was the most popular object in the museum so we allocated

him a dedicated display space, and then used the children's suggestions to come up with exhibit's the interpretation. Now they are able to learn about the arctic environment and the life of a polar bear through Snowy in a way that they have chosen themselves.

To make a museum child-friendly, the management needs to understand the smaller audience and listen to their needs. Making Weston Park family-friendly was never going to be just about putting a box of toys in the corner and hoping for the best. You really have to think about every exhibit, every display – what are the messages they send out and how do they connect with the viewer?



What do you think about museums and children? Share your views – email andreahezovit@leisuremedia.com



MARY SINKER

Child development
specialist and museum
exhibit developer
Mary Sinker Consulting

Increasingly, museums are realising that they have to be able to attract families with children – and to make exhibits interesting to tech-savvy kids.

As a result of this, museums are definitely becoming more interactive and they are figuring out ways and strategies to engage families and children in their exhibits. Nowhere else is this trend clearer than at natural history museums, which still largely rely on old displays showing a male, a female and a baby species in front of a painted backdrop. Despite these displays sometimes originating from the 19th century, museums are finding ways of making these old exhibits interactive.

I believe the key for museums to make displays more kids-friendly is to make them hands-on, minds-on and hearts-on. By this I mean that exhibits should not be just about looking or pushing buttons. If you really want to provide a learning experience then you have got to ensure you captivate your audience. You need to make sure kids are engaged with their hands, their minds and their emotions.

When you engage all three of these, you've got a learning experience that can make a difference. The key is to connect the topic that is explored – be it science, art or natural history – back to the person. There are a number of studies showing that this is how people of all ages learn best.

Parents – and let's not forget the grandparents either – are constantly looking for opportunities for quality time with their children. They appreciate places where they are welcomed, feel comfortable, and where their children are able to learn and express themselves freely.

obvious practices, they are ones that are often overlooked.

Truly successful facilities are ones that go beyond the minimum and provide plenty of places to gather and rest as a family; feature 'kid-sized' drinking fountains and bathroom facilities; make it easy to bring and store prams; provide inexpensive and healthy food and drink options.

From an experiential standpoint, designers need to treat children as an equal and valued segment of the target audience from the outset and create experiences that engage the youngest of visitors without detracting from the experience of other audience segments. Great examples

include the American Museum of Natural History's Night at the Museum sleepovers; the Speed Art Museum's ArtSparks Interactive Gallery; the British Museum's innovative backpack program; the Natural History Museum's hands-on Investigate centre; the beautiful Noah's Ark

exhibit at the Skirball Cultural Center in Los Angeles, US; Deepo's Undersea 3D Wondershow at the Georgia Aquarium, Atlanta, US; and Smithsonian's Spark!Lab, just to name a few.

At the end of the day, it's really about being accessible and engaging every segment of your audience. Isn't that what we're here to do? ●



SHAWN MCCOY

Vice president
Jack Rouse Associates

Given that the competition for consumers' disposable income – and time – is ever increasing, it is imperative that museums and other attractions provide environments and experiences that are child-friendly.

In order to do so, operators must first provide facilities that are clean, safe and easy to navigate. While these seem like

SEEING IS BELIEVING

A study into secondary school visits to museums shows that museum visits have a positive impact on school children's grades. Kathleen Whyman talks to the coordinator of the research, Colly Mudie, about what this means for museums

The study, carried out by the Research Centre for Museums and Galleries at the University of Leicester, was published in Attractions Management's Q1 08 issue and looked at the impact of museums visits on the attainment of secondary

school pupils in the East of England.

As learning manager at Gressenhall Farm and Workhouse and a representative of East of England Hub Museums, Colly Mudie was a natural fit for the coordination role and liaised

with the university and the museums involved: The Fitzwilliam Museum, Cambridge, The Sainsbury Centre for Visual Arts, Norwich, Peterborough Museum, Suffolk Archives and Gressenhall Farm and Workhouse.

How did the research project come about?

It came out of another publication called *What did you learn at the museum today?* MLA (Museums, Library and Archives Association) publication 2006 – a national study trying to assess the impact of museum learning. In the report, Gressenhall emerged as one of the interesting case studies. A small group of students showed a remarkable increase in attainment as a result of coming on

museum visits. The next lot of research, funded by the MLA and the hub museums, was done to test that on a much larger scale and get some robust evidence to show museum visits can impact on attainment. We know they impact on lots of other things, it was attainment we were looking at in this research.

What did you do?

We wanted to test out what the impact of a museum visit would be across a vari-

ety of subject matters, not just history. We were looking at a breadth in school ages, a range of subjects and a spread of schools – urban, rural, etc. We looked at geography, art and creative writing at key stage three (11- to 14-years) and key stage four (15- and 16-years – GCSE level).

The University of Leicester came up with the idea of collecting the marks from the museum-based assignments. We looked for case studies resulting in a written piece of course work so we could



Gressenhall Farm and Workhouse was one of the museums involved in the Research Centre for Museums and Galleries study



Initiatives at Gressenhall allowed students to learn through exploring the museum (left) and interacting with costumed characters (right)



collect marks as well as grades from the students' previous three pieces of course work. We also chose museums which had already established school partnerships.

What projects were done?

At Gressenhall we worked with a local authority advisor and held two events, and made coursework available that the teachers could run alongside if they wanted to.

One project was history-linked, asking: "Was the workhouse so bad?" Students looked at part of Gressenhall, which is an old workhouse, and gathered evidence about whether the workhouse was a good system or not. They had four sessions in which costumed characters presented different sides to the argument. The students wrote a balanced argument at the end.

The second project was geography based and called 'Homes For Habitat'. Students were presented with the scenario that a housing company wants to build rural housing on the working farm site of the museum, which is a beautiful 50-acre site in the middle of the Norfolk countryside. They meet different characters who offer four viewpoints. The property developers argue that rural hous-

ing is needed, while an environmentalist argues that the environment can't cope with new housing and we should be preserving the environment and wildlife. Then they meet a farmer who's in a dilemma – farming isn't making money anymore and she's tempted by the money from the property developer. But the farm has been in the family a long time and her teenage sons want to take the farm on. The fourth character is a low-waged worker in desperate need of low cost housing. We build up the complexity of the argument and let the students write a balanced review.

The programmes rely on highly-trained, very good deliveries from our museum staff and the actors, artists and freelance educators we work with. It's important they're trained to very high standards and are confident working with the museum, the collections and particular age groups.

The programmes rely on highly-trained, very good deliveries from our museum staff and the actors, artists and freelance educators we work with

What was the outcome of the report?

It had a beneficial effect on the attainment of secondary schools. Boys attainment was as good as girls in the museum environment. We made the experience enjoyable, memorable and motivating, which translates into better work and more effective learning. We showed we were flexible, which is important. Those case studies ranged from a small group of about 10 pupils working closely with an artist to about 100 students coming to an off-the-shelf day at Gressenhall, with the same findings coming out of the results.

What's the benefit for museums?

We now have a good, robust study. A lot of feedback is very anecdotal, which is fine, but it's good to have actual research that proves it does impact on attainment



Held at Norwich Castle (top right), the KS3 event 'Storming the Castle' lets students practice maths skills to investigating attacking and defending the castle (above)



PHOTO: TOM M. KOSTER

We're using the collections in the castle to examine what slavery meant in Norfolk. Our job is to uncover these uncomfortable moral issues and link them to the collections.

to show heads and senior management teams in schools where they're asking to release whole year groups to do museum things. It also shows that we're all working to the same end. And the evidence is showing that it's all good.

The report's gone to every secondary school in Norfolk and the bookings for the academic year 2008/2009 are up. It's also been very well received by the University of East Anglia. We're trying to make the case that museums have very good learning opportunities for schools, so that's helped our case there.

What other projects are you involved with?

I now work at Norwich Castle, where we're working on a history and maths event together with a group of teachers and a local authority advisor. We've used different characters, making it active and mass activity-based.

We also have a programme at the castle to support schools' slavery unit - 14-year-olds now are required to look at slavery. We're using the collections in the castle to examine what slavery meant in Norfolk. We'll also use costumed characters and a drama-based approach to probe the issues underpinning slavery. Our job is to uncover these uncomfortable moral issues and link them to the collections.

What was the main challenge?

Working with secondary age students. The traditional age is primary school students, but older children require more in-depth approaches using different skills. They also often attend in larger numbers - whole year groups, up to 250 students, are often brought, so there's a capacity issue. Finding highly trained staff to deliver sessions is a challenge, as is encouraging schools and letting them know there are very high quality opportunities available in museums now and they don't just have to assist with history lessons, as the geography project shows.

How much time does it take?

Secondary school programmes take a lot of time to develop. We meet the teachers very early on and ask if they'd like to work together, what their needs are, what shape they'd like the day to take. We then put something together and see if they're happy with what we're developing. We have a couple more meetings before the pilot and are continually evaluating the events. It needs a commitment of time and a very careful planning process.

How will projects be developed?

We'll be extending the work we do with secondary schools. We'll be doing more sessions, particularly the geography ele-

ment, which has proved very popular. In line with this, we'll educate front of house staff on how to deal with having large groups of teenagers in the museum.

What advice can you offer other museums?

Work with the schools, and teachers in particular, to form a strong partnership, as this will impact the result. Museums have to look very carefully at their capacity and their potential - potential in terms of what collections they've got and what they can offer schools in regards to subject matter. Gressenhall and Norwich Castle can both offer large groups of students, but even small museums can offer things for small groups of students. Try and find a niche in the market. Look beyond history.

And for the future?

These are exciting times. The new Key Stage Three curriculum came online in the UK in September, offering a more flexible approach for schools and a wonderful opportunity for museums to become involved. Schools will be looking for new opportunities in a way they haven't before.

Maths, English and science are also open for local opportunities. Museums provide real life context to subjects. And, hopefully, these projects will encourage more people to visit museums in general. ●

IMMERSIVE SPACE



Scene from *Fly Me to the Moon*
nWave Pictures

Scene from *Seven Wonders*
E&S Fulldome Pictures



Scene from *Microcosm*
E&S Fulldome Pictures

Today's digital fulldome planetarium systems provide a space to immerse the imagination and the senses in flights to the moon, voyages to distant galaxies, and journeys through inner space. And that's just the beginning. This immersive space transcends traditional astronomical topics and is a powerful medium to transport audiences to destinations both exotic and fantastic. Digistar 4 planetariums can be teaching spaces, entertainment spaces, giant screen film spaces or virtually any other spaces you can imagine. Immerse yourself in a Universe of Possibilities with Digistar 4.

DIGISTAR 
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In the second instalment of our year-long planetariums series to mark the International Year of Astronomy, Andrea Jezovit looks at the planetariums that are getting creative and going beyond tradition to attract new visitors

These are exciting times for planetariums. Fulldome video and digital projectors have transformed them into venues that can create the most vivid, immersive experiences, showing film to rival IMAX, taking visitors on journeys through space and beyond, and showcasing hyper-realistic versions of the night sky. (See feature in AM Q1 09.)

Despite the dramatic entertainment factor today's planetariums can offer, however, it's often still difficult for even the most high-tech of the bunch to attract potential visitors – many of whom may still think of planetariums as the classical star theatres they visited as schoolchildren. The reality is that today's planetariums have the ability to act as entertainment centres catering to a wide range of visitors, even going beyond stars and science to attract people who might never have visited otherwise. And some planetarium staff have been taking advantage of this, using creativity and innovation to build on the ways their facilities are used.

BEYOND THE STARS

“WELLNESS CENTRE FOR THE SENSES”

One of the most successful in this area has been the Hamburg Planetarium; led by director Thomas Kraupe, the planetarium is known throughout the industry for its innovative work drawing visitors. One of the few stand-alone planetariums in the world that's achieved profitability, 80 to 90 per cent of its budget has come from ticket sales since the venue reopened after a renovation five years ago, and it operates with minimal funding from the city of Hamburg. “It's a very successful operation, the most successful in the

German-speaking world,” Kraupe says. “I don't know any other standalone planetarium that has that high attendance of 350,000 people per year, which has been constant over the five years since we reopened. Most planetariums that have more visitors are part of a larger museum.”

Pre-renovation, the planetarium only focused on the niche audience of hobby astronomers, Kraupe says. “You'd go there maybe twice in your lifetime, first when you were a kid and the second time when you had kids yourself.” So his team came up with masterplan for reaching a new target audience – everyone from the

PHOTO © OLIVER GÖRSCHMIDT/TRANSILLUMINATE



Hamburg Planetarium director Thomas Kraupe has implemented late night events for adults, such as Alien Action (right)

WE TRIED TO ATTRACT A NEW AUDIENCE BY CREATING EXPERIENCES WHICH WERE BOTH INTELLECTUAL AND EMOTIONAL

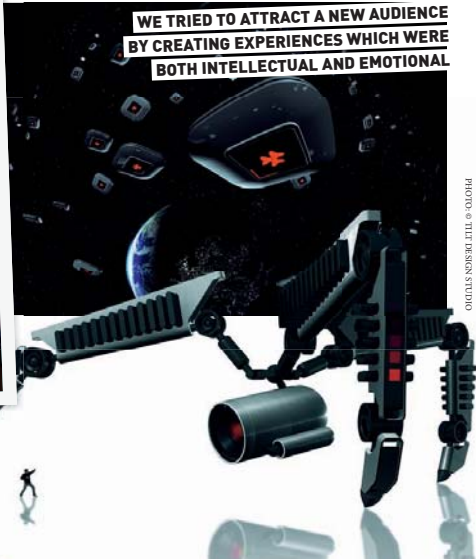


PHOTO © TILT DESIGN STUDIO



Voices in the Dark (this photo) and Alien Action (right), two of the Hamburg Planetarium's evening shows, feature a mix of visual art, music, and in Alien Action's case, karaoke

THE WHOLE INDUSTRY HAS CHANGED AND DOME ITSELF HAS BECOME SO MUCH MORE THAN JUST A PLACE TO VIEW STARS

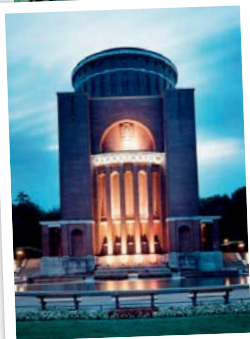
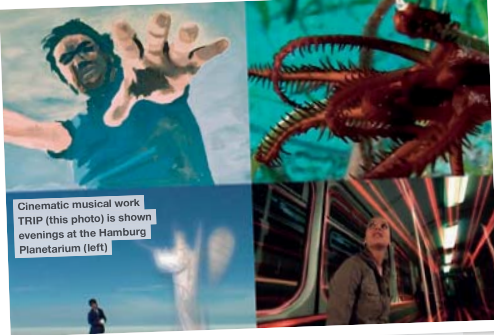


PHOTO © CHRISTIAN KAHN / PLANETARIUM HAMBURG



Cinematic musical work TRIP (this photo) is shown evenings at the Hamburg Planetarium (left)

PHOTO © TERRY HOSE PRODUCTIONS / PLANETARIUM HAMBURG

ages of 4 to 100, and especially those not normally interested in astronomy or science. "We tried to attract this audience by creating experiences which were both intellectual and emotional," Kraupe says. One way the planetarium does this is through its immersive programming, mixing dramatic educational content shown on its sophisticated digital full-dome system with live expert presenters who interact with audiences. But the team also works a great deal to attract the evening crowd with a number of events.

Concerts are one evening draw, held regularly in the planetarium's dome theatre against the backdrop of the stars. Kraupe has reached out to record companies, bringing in pop icons such as Enya for performances and working with

Warner music to produce shows; these one-off high profile events have been especially effective in helping attract new guests through word of mouth, but visitors can find at least one or two musical performances in the planetarium during any given week. A grand piano is a permanent fixture on the stage in the planetarium's theatre, and audiences have been treated to classical music, gospel singers and jazz. The planetarium also shows cinematic musical works and holds a monthly DJ event in the evenings, along with regular poetry and book readings, lectures and theatre under the stars. (One past performer is artist and composer J. Walt, who creates otherworldly visual experiences by drawing virtual animated worlds on the dome before the audience's eyes.

[See feature on p82.] "It's sort of a well-mess centre for your senses," Kraupe says. "You can relax, you can contemplate, you can enjoy, but you can also learn."

SPREADING THE WORD

A lot of planetariums hold evening events, but the Hamburg Planetarium has also overhauled its marketing approach to spread the word about its entertainment offerings, something that Kraupe says has made all the difference. This has involved everything from new brochures to looking for partnerships with organisations that go beyond astronomy - for example, the planetarium landed its regular theatrical performances through reaching out to theatre troupes and other venues. Media sponsorships have also been important.

National Geographic Germany is sponsoring a series of fulldome shows called "expeditions" that will combine archaeology and biology with astronomy.

As the new digital fulldome technology available to planetariums is useful for creating vivid corporate presentations, planetariums also have the chance to chase a new revenue stream by marketing themselves as high-tech venues for corporate events. This is something the Hamburg Planetarium is hoping to expand on in the future by utilising some of the building's extra space to allow shows and events to run simultaneously. Also in the planetarium's future may be a partnership with Meridian Spa on a new fulldome show called ADAMAS - The Age of Light, set to premiere this summer. The details are still in discussion, but Kraupe is keen

to incorporate spa elements at the planetarium to help build on the "wellness centre for the senses" theme.

WHAT AUDIENCES WANT

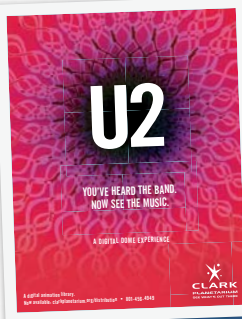
The Salt Lake City-owned Clark Planetarium is another of the world's most successful standalone planetariums, funding two thirds of its budget alone. "We've always been very entrepreneurial," says director Seth Jarvis. "We don't suffer being on our own." One way the planetarium entices visitors through its doors is with free exhibits. In 2008 alone, US\$250,000 (£173,800, €188,600) was spent on four new ones - including an interactive exhibit about solar energy allowing visitors to monitor the planetarium's rooftop solar panels. "People wander around and see all these amazing things,

and the exhibits are located right among our two theatres, the IMAX theatre and the dome theatre. We prominently display information about our programmes on the walls and ticket counters to get people excited about learning more by purchasing a ticket," Jarvis says.

"There's also a science store we call Planet Fun, we have a membership programme that gives people reasons to become planetarium members, and we rent the building out for special events."

The planetarium also focuses on providing great shows - the Clark is one of the few planetariums that has a production arm to create its own content and sell it to other venues, creating another important revenue stream. The production team surveys other planetariums for ideas, and audience members are consulted about what they would like to see. "They love black holes! And they want to learn where the new frontier is," Jarvis says.

Aside from producing the educational content audiences want, the Clark production team has pioneered a new take on the planetarium laser rock music show to draw in the late night crowd - lasers and advanced fulldome computer graphic animation are set to the music of U2 and Pink Floyd; there's also the Rock on Demand show, where the audience can vote for songs they'd like to hear by pressing a button on their seats. "It means you're making money at 10 pm, 11 pm and midnight on a weekend, and it's a concert-like experience different from anything else you're going to see in town," Jarvis says.



The Clark Planetarium has developed a new take on laser rock music shows (top left), and the planetarium's in-house team creates the educational content visitors want (right)





The Montreal Planetarium has not yet gone digital, so uses the human element to draw visitors, with four astronomers on staff



EVEN IF YOU HAVE ALL THE LATEST TECHNOLOGY, YOU STILL NEED A HUMAN IN YOUR STAR THEATRE TO SHARE HIS OR HER PASSION WITH THE PUBLIC

PERFORMANCE ON DEMAND

It's not just the standalone planetariums that are getting creative. Steve Cooper, technical coordinator at the Science Center of Iowa, developed the interactive Cosmic Jukebox® for the centre's planetarium. During the design process for the science centre, which opened in 2005, Cooper was given the challenge of creating a star theatre that would be as different as possible from the IMAX theatre which would also be part of the facility. "The Cosmic Jukebox helped accomplished this," Cooper says.

The result is that guests can sit at a kiosk outside the planetarium and use a touch screen to select topics and assemble their five favourite video clips in any order they choose. If the guest wants to

see their creation on the planetarium's dome, they're given a number and are asked to proceed to the theatre. A touch-screen outside the theatre allows the guest to touch their number at any point during that day to begin a five minute performance of their chosen clips.

"As a result, our theatre is in operation all day. We simply leave the doors open whenever we don't have another activity scheduled," Cooper says. The planetarium has run over 36,000 of these 'little shows', with an average of 10 to 12 guests viewing each one. "We estimate that 50 per cent of our guests make use of the Cosmic Jukebox, and that half of those, without this option, would have missed a planetarium experience during their visit just because of bad timing. This repre-

sents over 200,000 guests in under four years who otherwise would have missed out altogether," says Cooper.

The science centre has plans to market the jukebox and hopes to eventually be able to 'barter' for clips with other venues. Cooper also hopes to make some additions to the jukebox, so guests can assemble their favourite constellations and facts on planets and moons.

HUMAN TOUCH

Planetariums that have not yet gone digital have to work the hardest to attract visitors. The Montreal Planetarium will move to a new digital full-dome venue in 2012, on a site adjacent to the Montreal Biodome; for now, the planetarium emphasises the human element in the absence of new technology, with four astronomers on staff and live presentations. The venue is holding a number of activities for the International Year of Astronomy, including observations of the night sky at the planetarium and local parks.

Keeping the human element alive in planetariums will be a challenge as more planetariums make use of new immersive technology, but it's still one of the most important ways to attract visitors, says the Montreal Planetarium's director, Pierre Lacombe. "Even if you have all the latest technology, you still need a human in your star theatre to be the interface between the public and the technology, and to share his or her passion." ●



The Iowa Science Center's Cosmic Jukebox® allows visitors to choose clips to view during their own customised star theatre show

Forrec

In the second of a series on best practices in attractions design, Dave Eagleson talks to Andrea Jezovit about Forrec's design philosophies and one of its latest projects, Nickelodeon Universe



Both family and thrill rides are offered



NICKELODEON UNIVERSE MALL OF AMERICA

Opened: 2008

The offer: A seven acre (three hectare) indoor theme park. The largest indoor family theme park in the US, it contains 30 rides and attractions, including the SpongeBob SquarePants Rock Bottom Plunge, a looping coaster, and Splat-O-Sphere, a 60-foot spring tower that launches guests towards the ceiling before catapulting them back down.

How were you involved in the Nickelodeon Universe Mall of America project?

Forrec was initially engaged to provide strategic masterplanning for the park, evaluating the operation as it existed prior to the rebranding, and identify opportunities to expand and enhance the facilities. The park had been operating under the banner 'the Park at MOA' following the end of a previous branding license (Camp Snoopy), and had not been updated for some time. Once the decision was taken to move forward with the rebranding, we worked with Nickelodeon Recreation to apply the Nick brand and its IPs to the various attractions, while working to enhance the circulation, visibility and integration of the various park elements.

What's special about the design?

As a standalone park, this differed from existing Nickelodeon lands in gated theme parks in that its programme had to appeal to a broader demographic. The inclusion of more extreme ride elements ensures that there's something to appeal to all members of the family.

New rides under the new Nickelodeon Universe re-branding include the SpongeBob SquarePants Rock Bottom Plunge (Gerstlauer Euro-Fighter Looping

Coaster), Avatar Airbender (Intamin Half Pipe), and the Splat-O-Sphere tower ride, with the latter two being significant elements within the new centre of the project. These rides were included to ensure broad appeal. The park in its entirety has received a substantial makeover including retheming of the remaining rides, updates to circulation routes, food and beverage and retail shops, and an extensive environmental graphics programme.

What's your favourite part of the design?

The centrepiece of the project is the most striking of the improvements, and has turned what was an underutilised area into the heart of the project. Incorporating new rides, circulation improvements and the graphic icon for the park, this hub is also the visual icon that draws guests in from the various access points to the park from the surrounding mall.

What challenges have you faced while working on this project?

There were a number of major challenges, one being the desire to stage construction works in such a way as to permit the park to continue operating throughout the expansion and rebranding exercise, another the ambitious schedule itself,



The park's central hub acts as a visual icon

while the very nature of the location within a large operating shopping mall presented a number of constraints.

What makes the ultimate well-designed theme park?

There's not a single answer to this question. A guest will have a different answer from an operator, and the park's location itself will have an impact on the design. Ultimately the best indicator that a park is well designed is the response from the marketplace, measured by its attendance, including repeat visitation and word of mouth. If the park does not respond to the guest's expectations and to the market in which it will operate, it ultimately won't be successful. It's important to recognise that what works in one location will not automatically work in another. Cultural, economic and even climatic conditions in the locale must be considered to ensure the success of the park, and these will differ from one location to another.

What's the biggest influence on your designs?

I don't think there's a single influence that could be considered the biggest. Each project is different, whether a theme park or not. It's always important to understand that a project, once complete, is a

With the rising cost of travel, even destination attractions may find themselves relying more on local and regional repeat visitation, with consequent impact on the need to be refreshed and marketed strongly in that local market

business, the success of which is directly impacted by the design. Balancing guest experience and operational needs and criteria must inform the design from the earliest stages. The goal is to ensure the ultimate implementation and successful operation of the project. Creative design, practical master planning, sound financial projections, management and operational expertise combine to achieve that goal.

What are the latest trends in visitor attraction design?

Branding is a big consideration, whether it's applying a licensed brand or creating a compelling brand from a fresh idea. Also, recognising the synergies of various complimentary uses can influence design. For example, integration of resort hotels and other amenities to broaden the offer and appeal, and to allow the operator to benefit from the traffic generated from the park, is a consideration for many projects.

Where do you think visitor attraction design is headed in the future?

As always, looking at emerging technologies and their applications will continue to be important. With the rising cost of travel, I think even destination attractions may find themselves relying more on local and regional repeat visitation, with consequent impact on the need to be refreshed and marketed strongly in that local market. They may also be competing for a smaller pool of discretionary entertainment spending within that market. This will put a premium on creative and cost-effective ways to bring new designs forward and differentiation within that market, but the ultimate focus on guest experience will still be paramount.

How do you come up with ideas for your designs?

Collaboration and brainstorming in workshops, both internally and with the

broader project team, is key from the beginning. In these sessions, any number of ideas can be explored, and it generally allows the project to then be focused in on the preferences that become established. That said, there are still those cases where someone has a 'eureka' moment, coming up with a 'big idea' for the project, and the design then evolves from that within the collaborative environment. Part of the process is also matching the right staff with the right experience to the right project and client. For each project, we tailor the design team to meet the specific skills and experience required for the project, meaning that the right skills are at hand to bring both the creativity and experience needed to advance the project.

How do you work with a client on a brief?

We believe in a collaborative process, a team approach that includes the client and the entire design team. Most projects begin with the client having some preliminary goals and objectives to be met, and these are examined at the outset and in those preliminary work sessions so that they can be expanded upon and clearly understood from the earliest stages. Decisions taken at this point are significant in that they define the framework around which all of the disciplines will work. Changes later in the process are costly, and we believe that having the client and all team members engaged and taking ownership from the outset pays significant dividends as the project advances.

What research do you do to create a concept for an attraction?

It varies depending on the project, and even the type of project. Branded projects typically come with material and creative assets, which are then merged with the



The rebranded park opened in 2003

desired programme. Projects like this typically follow a very collaborative approach with the brand and the client. For other projects, there's a process of studying the context in the marketplace, the client's desires for the project, and sourcing of visual references to aid in the definition of the theme or themes being developed. This also includes sourcing and study of topical written material, which aids in the definition of a project narrative.

The assembled reference material is used to develop initial creative ideas, which become a tool themselves. Often, this initial creative is tested locally in conjunction with market research firms to establish what response there is to particular ideas, which then informs the project design.

How do you make your designs visitor-friendly?

The visitor needs to be given priority. Every part of the guest's day at the park or attraction needs to be considered. You don't want the enduring memory of the visit to be the long wait for a restaurant, or the time it took to get out of the parking lot at the end of the day. From the time that the guests enters the property to the time that they leave, everything should be considered from the standpoint of the guest.

Do you try to create designs that are immersive?

Most projects, particularly theme parks, are intended to include immersive environments. To be immersive, every aspect of the design needs to be considered, with the goal of using every element available to reinforce the theme, including a location or a time period. Considerations include view lines, control of visual intrusions, and attention to the theme by all of the disciplines involved in the project.

With our in-house multi-disciplinary team, we consider everything from the fixtures in the interior spaces to the style and method of construction of the graphics. If any one element is a disconnect from the desired setting, then it can compromise the suspension of disbelief and the ultimate sense of immersion.

Would you go back and change any of your designs?

It would be impossible to answer no to this question. Each project is the result of a number of opportunities and constraints, which can change over time - expensive technology can become more affordable. Also, as technology advances, it's not uncommon to look back and say 'if we had this, we could have done that'. But hindsight also helps with new project ideas. ●

OTHER PROJECTS

LEGOLAND Deutschland Forrec was lead consultant for the creation of the world's fourth LEGOLAND park, opened in Germany in 2003
Shanghai Science & Technology Museum Forrec led the design and the development of phase two of this museum, which opened in 2003
Everland The firm developed a 10-year masterplan for the extension of this 30-year-old South Korean theme park, completed in 2005

Here's what we're doing for some of our visionary clients:



Universal Studios Dubailand, UAE



Mixed-Use Development, India



Powerlong Entertainment Centre, China

What can we do for you?

Forrec's unique approach begins with master planning, whether it's a theme park, entertainment centre, mixed-use development or a destination resort. Big Picture Thinking combined with meticulous attention to detail allows us to identify and explore every creative opportunity in any project. This approach and over forty years of international experience make us the clear choice to help realize your vision.

Talk to us. See what we can do for you.



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BUILDING GONE GREEN

Operators are increasingly limiting the environmental footprint of new attractions by building them to green standards. Attractions Management looks at four recent projects to find out why going green was worth the effort



PHOTO: STEPHEN DOMANICK

BALL'S FALL'S CENTRE FOR CONSERVATION, NIAGARA, CANADA

DARCY BAKER

Director, Land Management, Niagara Peninsula Conservation Authority

■ What was the inspiration behind the project?

The conservation authority picked this project up from the Ball family in the early 1960s. We've got a rich archaeological resource there with evidence of First Nations encampment, an amazing geological resource along the Niagara escarpment and the Twenty Valley system, and the cultural heritage of the Ball family and early European settlement in Upper Canada – all this combines on the site, it's unique.

We did a masterplan for the property, and it told us that we really needed to have a facility where we could educate visitors. We're hoping it'll draw a lot more people to the area, and educate them so that they'll experience a lot more going through Ball's Falls and have more respect for the environment.

■ What makes the building environmentally friendly?

We followed the Canada Green building council's LEED program, so right from the start we took into consideration the footprint on the landscape. So siting the building, orienting the building with respect to topography and to neighbouring landowners impact on the

PROJECT INFORMATION

Opened: May 2008
Project cost: CA\$4.2m
Architect: MacDonald Zuberec Enslen

A 1,115sq m (12,000sq ft) facility built by the Niagara Peninsula Conservation

environment. And then that was followed by selection of construction materials, with design of the building, and even management of the construction site, so everything that was brought onto the site, any excess material was recycled.

■ How do you conserve water and energy?

We've employed ground source geothermal for our heating and cooling needs. As for water, we have three large tanks that collect rainwater from the roof, which is brought back into the building for flushing toilets and other non-potable uses.

■ What materials were used in the construction?

When there were alternatives in the construction process and in the fixtures and finishes, we selected water-based environmentally friendly alternatives to the solvent-based finishes. The rugs and furniture are all made of materials that have very little

Authority as a visitor centre for the Ball's Falls conservation area, and as a learning centre for watershed management. The project has received a LEED Gold rating after being designed according to LEED Canada standards.

off-gassing, so they don't have volatile organic compounds found in many plastics. The materials also incorporate a lot of recycled product—the blocks and the block walls were constructed with brick that has a great deal of recycled component in the concrete, and the main wood beams are built using material previously cast off at the sawmill, laminated together to form structural wood components.

■ How did this impact project costs?

It probably increased costs about 10 to 14 per cent over traditional construction, but we'll get a great deal of those expenses back early on within about a five-year return rate. Water savings alone is around 60 per cent of the bill that we'd pay for water in the first place.

■ Will you develop the eco side in the future?

We'll be looking at using some of these technologies on our other properties.



THE WORLD OF COCA-COLA, ATLANTA, US

CHRIS WALLACE

director of operations

■ What makes this building environmentally friendly?

A great deal of the construction waste, roughly 90 to 99 per cent, was reused or salvaged instead of it just going into a landfill. Twenty per cent of the materials were recycled – we used different plastics, rubber flooring. We have a retail store with bamboo flooring, which is a renewable resource. We used different paints that would have low fume emissions, less chemicals. With adhesives and, we looked for eco-friendly products.

In downtown or urban areas there's often a heat island effect that raises the temperature of the surrounding areas, so instead of having a dark-coloured roof, we have a white roof, which generates less heat than a building of this size usually does. And the building's design means we use roughly 30 per cent less energy than a facility this size would use. Our HVAC, the light bulbs, every element of power within the building had a specific design behind it to use less power.

■ How do you conserve water?

Coca-Cola is linked to water because without water we can't create our beverages, so Pemberton Place park, a Coca-Cola

PROJECT INFORMATION

Opened: May 2007

Project cost: US \$100m

Architect: The Jerde Partnership

A 9,290sq m (100,000sq ft) attraction in downtown Atlanta presenting the history

of Coca-Cola and the company's brands and beverages to 1.2 million visitors per year. The building, has been awarded LEED Gold certification, and includes a retail shop and onsite bottling plant using glass bottles that are recycled.

property that surrounds our facility, had an extensive water design, little waterfalls and a large pond. It really showed our commitment to water and had a really good recycling system, but unfortunately Georgia's in a drought, so after our first year of operation we actually took out all the water features, filled it in with soil and put in drought-tolerant plants.

We use 40 per cent less water than a facility this size would use. The men's rooms use waterless urinal technology, which saves roughly 400,000 gallons of water over a three-year period.

■ How has the eco element affected maintenance costs?

Some of the materials we used were more expensive, and some were actually cheaper. Not everything-green friendly is more expensive. Some of the paints have actually turned out to be cheaper when we get them from the general market. Also some of our carpet materials,

because our carpet is made from recycled plastic – when you buy a Coca-Cola you usually get it in a plastic PET bottle, and our carpet and some of the tiles are made from recycled PET. That's becoming more common, and it was a little bit cheaper.

■ How do you encourage staff and visitors to be environmentally friendly?

We offer samples of beverages using a fully-compostable cup made from cornstarch. We pass along planet message in a lot of different ways, but the cup is probably what our guests focus on the most.

Some of the clothing in our gift shop is made from recycled plastic – a t-shirt might be made from five 20oz bottles that have been recycled into thread. We also harvest old billboards and take the plastics to make merchandise, such as duffel bags. One of our artisans takes tabs from the tops of Coke cans and weaves them together into handbags, and we sell jewelry made from Coke glass.



PHOTOS: ANEURN PHILLIPS



HAFOD ERYRI, SNOWDON, WALES



RAY HOLE ON THE BUILDING'S DESIGN:

"In the past, when looking down from the summit toward the old café, visitors would have seen an ugly flat roof. With the new design, we've tried to ensure the summit building is aesthetically attractive and appears smaller than it actually is. It uses classic theatre false perspective, but in reverse, to reduce the scale of the building. It also features two dramatic glass walls, included to minimise reflections, which allow visitors a view through the building to the landscape beyond. When inside the building, this encourages visitors to look up towards the summit."

PETER TRUMPER

Head of Property,
Snowdonia National Park Authority

■ What was the inspiration behind the project?

There's been a history of buildings on the summit dating back to around 1840. Over the years they've evolved from little wooden huts to the last building, which was a brick and concrete flat-roof structure built in 1935. A few years ago it had started to look very tired, and it was a bit of an embarrassment – most of our visitors would have a wonderful walk up Snowdon, or a wonderful journey by train taking in spectacular scenery, but ultimately the arrival at the top was disappointing because of the appearance of our building. So in cooperation with our tenant, the Snowdon Mountain Railway Company, and after public consultation, we agreed it would be a good idea to knock it down and build a new one.

■ What makes the building environmentally friendly?

It's built on the same footprint as the old building. The elements of the building are all low maintenance – the external shell is all self-finished, and you've got stainless steel, glass, granite, all of which are fairly maintenance-free. The power generation of the building is on site – it's got its own diesel generator, so no electricity cable had to be laid up the mountain. The south

PROJECT INFORMATION

Opening: Spring 2009
Project cost: £8.35m
Architect: Ray Hole Architects

A destination at the summit of Yr Wyddfa (Snowdon), Wales' highest mountain,

facing wall in the visitor area is all glass to maximise the solar gain and cut down on artificial lighting. Part of the building is partially underground to lessen its impact visually, and it also acts as insulation for the staff accommodation. The water for the toilets is taken off the rainwater from the roof. 64 per cent of the building's labour and materials were locally sourced. It's hard to get a BREEAM score of Very Good when you're building on top of a mountain, so we're very pleased.

■ How did you ensure the building complemented the mountain?

The most important thing in terms of the design philosophy is that visitors have the experience of being on the mountain and not in the building – this goes back to the glass, and the shape of how the building fits on the mountain. The sculptural form pays homage to the summit, and with half the building buried underground you can hide the impact and still provide the facility. So you can have the facilities and not detract from your visit.

that is both a visitor centre and the UK's highest mountain railway station – a 100-year old funicular railway runs within 20m of the summit. The building, which has received a BREEAM rating of Very Good, include a café and shop.

■ Is there anything you wanted to do but couldn't?

We looked at wind turbines, but because of the ice you get up there and the winds that vortex all around the building, they wouldn't have lasted long. Also we were concerned that things like solar panels may be susceptible to vandalism – you've got to bear in mind that if anything goes wrong up on the mountain, it costs three times as much to fix, so we were looking for fairly low tech solutions that were going to be cost-effective in terms of the building's management in the long term.

■ How has the eco element affected maintenance costs?

The natural materials we've used will help keep maintenance costs down. The inside of the café is lined with Welsh oak which has had a Danish oil put on it, so you haven't got painted walls and render, which would get mould growth over the winter when the building's shut down. The finishing materials will greatly assist us in trying to keep the building looking good.

Imagininvest's Emmanuel Mongon speaks to Marc Casteignau, director of France's Ecomusée de la Grande Lande, about its new sustainable building



PHOTO: HERVE JEZQUEL

PAVILLON DES LANDES DE GASCOGNE

■ What was the project?

A new building to accommodate welcome facilities, permanent and temporary exhibits, storage of more than 30,000 artifacts from our collection, and offices

■ What makes the building sustainable?

The theme and very existence of the museum is based on sustainable development. The forest of Landes is a man-made forest; pine wood from the natural park we're located in is used for the structure and the outside of the building. All rain water is directed to the exterior landscape and ponds. The building is cooled using underground energy, and the design of the building itself reduces the impact of solar energy – all windows face north.

The building site was 'green' because we only worked on the site for a limited time – the building was prefabricated. The building height is limited, and integrates perfectly with the neighbouring village

■ How was the wood treated?

Through a process called retification. The wood is exposed to very high temperatures which evaporate water and crystallise the wood. It becomes water resistant, but it is more fragile.

■ Is there anything you wanted to do with the building but couldn't?

I would have liked to have used 'Canadian wells' for the air conditioning. The air is pulsed from two metres underground. It gives a constant temperature inside

PROJECT INFORMATION

Opened: 2008
Project cost: €7m
Architect: Bruno Mader

This 3,000sq m (32,290sq ft) building is a new addition to the Ecomusée de

la Grande Lande, a 40-year-old ecomuseum located in Landes de Gascogne regional park in France. The new building will house exhibitions and store artifacts from the museum's collection, as well as act as a welcome centre.



the building. But we couldn't do it here because of the ambient humidity.

■ How many visitors do you have?

We have 94,000 visitors per year. The objective of the new building is to bring visitor numbers to 110,000. The whole Landes des Gascogne park, for which we



are the main entrance and welcome centre, is receiving 300,000 visitors.

■ Are you happy with the building?

Yes, we never imagined we'd be among the 10 projects nominated for Prix d'architecture de l'Equerre d'Argent, the highest French architecture prize. ●

PHOTOS: GASTON BERNHART

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DARWIN200

Thursday 12 February 2009 marked the 200th birthday of Charles Darwin, the naturalist who introduced to the world the idea of natural selection and the notion that all species have evolved from common ancestors. As 2009 will also see another Darwin landmark – the 150th anniversary of the publication of *On the Origin of Species* on 24 November – the Natural History Museum (NHM) in London, UK, chose the year to launch its Darwin200 campaign.

The idea behind the nationwide campaign is to provide institutions and attractions an umbrella under which they can organise and plan their own Darwin celebrations – with the ultimate aim of generating public awareness to Darwin's work and, of course, attracting more visitors to sites.

The year-long celebration of Darwin's life and work will see more than 300 activities take place across the UK, from the opening of a new £1m permanent exhibition at Darwin's former home in Kent, Down House, to the Royal Mail issuing a stamp in Darwin's honour.

One of the quirkiest celebrations so far has been the Darwin's Canopy installation at the NHM, a cross section of a thin vertical slice of a 200 year old oak tree on one of the museum's ceilings.

The year-long celebration will culminate in the opening of the new £78m Darwin Centre at the NHM. The 180,000sq ft (16,700sq m) centre took more than two years to complete and is currently in the process of having its galleries filled with exhibits and displays. The central feature of the Darwin Centre



Darwin's Canopy installation at the NHM

is a 65m-long, 8-storey high cocoon, which will be home to 20 million insect and plant specimens. More than 3km of cabinets are now waiting to be installed in the cocoon, which will be act as a discovery centre for museum visitors.

But Darwin's work will not be celebrated only in the UK. Around the world, tens of institutions and museums have chosen the year to create their own versions of Darwin200, many which have been working together with the NHM. ●

WHAT'S HAPPENING AROUND THE GLOBE:

AUSTRALIA

National Museum of Australia (NMA), Canberra

The NMA has linked up with the American Museum of Natural History (AMNH) to bring together AMNH's Darwin exhibition and a large collection of local Darwin-related exhibits. Details: www.nma.gov.au, +61 (2) 6208 5000

Museum and Art Gallery of the Northern Territory (MAGNT), Darwin

The city, named after the great scientist, will host a number of celebrations in his honour. MAGNT will take part by presenting a new exhibition called "Supercrocodylians". The new gallery demonstrates Darwin's theory through the most infamous of local species – the crocodiles. Details: www.nt.gov.au, +61 (8) 89998264

Australian National Maritime Museum, Sydney

The museum launched a new exhibition called Charles Darwin – Voyages and Ideas that Shook the World. Visitors will be able to view specimens and artifacts collected by Darwin during his voyages. Details: www.anmm.gov.au, +61 (2) 9298 3777

GERMANY

Schirn Kunsthalle, Frankfurt

Schirn will be one of the few institutions to look at the relationship between Darwin and fine art. The gallery's exhibition, called Darwin: Art and the Search for Origins, will feature works by artists who shared Darwin's interest in natural science. Details: www.schirn-kunsthalle.de, +49 (69) 299882

PORTUGAL

The Gulbenkian Museum, Lisbon

The museum will host an exhibition called "Darwin's Evolution", funded and provided by the Calouste Gulbenkian Foundation.

The displays and events will offer visitors an insight into the historical development of Darwin's ideas. Details: www.museu.gulbenkian.pt, +351 (21) 7823000

RUSSIA

State Darwin Museum, Moscow

The museum will run seven special exhibitions during the year. One, called Transformations of Domestic Animals, looks how all domestic animals descended from one common ancestor. Details: www.darwin.museum.ru +7 (499) 1346124

UNITED STATES

Museum of Natural History & Science, Cincinnati

The museum will treat visitors to a year-long exhibition called "Darwin's Evolution", designed to educate guests on Darwin's theories and working habits. Details: www.cincymuseum.org, +1 (513) 2877000

Natural History Museum of Los Angeles County, California

The highlight is likely to be the "Finding Your Inner Fish" event, hosted by famous paleontologist Dr Neil Shubin. Details: www.nhm.org, +1 (213) 7633466



FRANK GEHRY'S NEW DESIGN FOR THE ART GALLERY OF ONTARIO HAS TRANSFORMED THE ONCE DARK AND CONFUSING BUILDING WITH NATURAL LIGHT, NEW GALLERIES AND A GLASS FAÇADE TO BRING THE CITY INSIDE. CAROLINE WILKINSON VISITS

METAMORPHOSIS

BACKGROUND

Although the Art Gallery of Ontario (AGO) has been a fixture of downtown Toronto, Canada, since 1918, it's only now that the 480,000sq ft (44,590sq m) museum is making a real mark on the cityscape, thanks to a six-year, CA\$276m (£154m, €166m, US\$219m) renovation – called Transformation AGO.

The original museum offered a dark, non-descript visitor experience. Since reopening in November 2008, however, it's comparable with the world's most cutting-edge galleries in terms of customer focus and innovative design.

Tasked with redesigning the building to house the Thomson collection, the largest private collection ever donated to a Canadian museum, Toronto-raised architect Frank Gehry concentrated on improving the experience of viewing art by reorganising the AGO's circulation. Gehry's first major Canadian project, the renovation was focused on integrating natural light and making the AGO more understandable for visitors by uniting disparate areas created during the six previous expansions since the 1920s.

The Government of Canada and the Government of Ontario were major part-

ners in the project, contributing US\$24m (£17m, €18m) and US\$39m (£27, €29) respectively. The rest of the funds came from the private and corporate sectors, as well as community donations, with galleries named after many donors.

THE OFFER

The AGO's overall size has increased by 20 per cent, with 97,000sq ft (9,010sq m) of newly-built space, including a new four-storey south wing clad in glass and blue titanium to disappear into the sky. The wing also houses the new Vivian & David Campbell Centre for Contemporary Art and a 7,200sq ft (670sq m) events venue.

With 110 galleries across six floors, the transformed AGO has almost 50 per cent more art-viewing space and features 190,000sq ft (17,650sq m) of renovated space. The themed galleries are grouped into African, Canadian, Contemporary, European, Works on Paper and Education – each with an information 'hub' to orientate visitors. The 'hubs' are also used as assembly points for collection 'mini-tours', offered two to three times a day.

Nearly 40 per cent of the 72,000 pieces of permanent artwork are new purchases or gifts for the AGO. Among these is the



PHOTO: THE THOMSON COLLECTION © ART GALLERY OF ONTARIO



Henry Moore's *Two Forms* sits outside the gallery. The new European objects collection includes a 16th century pendant (above)

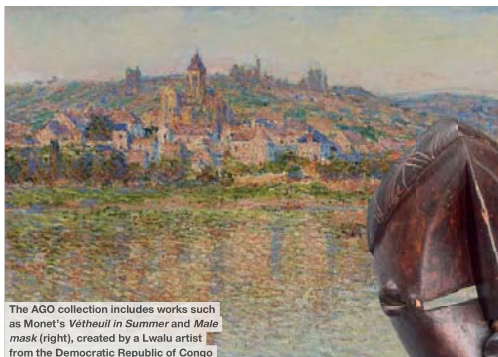
PHOTO: SEAN WEAVER © ART GALLERY OF ONTARIO 2008

unprecedented donation by the late collector Ken Thomson of more than 2,000 works. The collection includes some Canadian paintings, First Nations objects, European artworks and ship models, each displayed in a tailored area. The focal point of the European collection is Peter Ruben's 17th century masterpiece, *Massacre of the Innocents*, alongside Ruben's *Samson and Delilah*, which is on loan from London's National Gallery.

At the core of the AGO is Walker Court, a transformed open-plan space with a glass atrium flooding it with natural light and walkways around its upper perimeter

MEMBERSHIPS PACKAGES

Membership includes free admission to the gallery, special exhibitions and the members' lounge, a members magazine, and discounts at the AGO shop and eateries. Individual CA\$90 (£50, €54, US\$72), concession CA\$45 (£25, €27, US\$35), long distance CA\$75 (£42, €45, US\$42), and family CA\$120 (£67, €72, US\$96).



The AGO collection includes works such as Monet's *Vétheuil in Summer* and Male mask (right), created by a Lwala artist from the Democratic Republic of Congo





The redesigned museum features more natural light and an iconic spiral staircase weaving in and out of the building (below)

ABOUT AGO

Admission: Adults CA\$18 (£10, €11, US\$14), under 18s CA\$10 (£5.50, €6, US\$8), seniors CA\$15 (£8, €9, US\$12), family (two adults and two children) CA\$45 (£25, €27, US\$35), under fives and Ontario students free. To promote accessibility to art, entrance is free for all Wednesday evenings, 6 pm to 8.30 pm.

Opening hours: Weekends and Tuesdays: 10 am - 5.30 pm; Wednesday to Friday 10 am - 8.30 pm.

PHOTO: CLAYTON WEBER © ART GALLERY OF ONTARIO 2008



PHOTO: CLAYTON WEBER © ART GALLERY OF ONTARIO 2009



that link with the renovated second-floor galleries. The area's key feature is an iconic spiral staircase reaching to the fifth floor, which weaves in and out of the building to deliver visitors with views of the city.

The AGO's new glass road-front façade includes a 600ft (180m)-long bowing promenade 70ft (21m) above street level, which houses a new contemporary sculpture gallery - Galleria Italia - and is designed to offer light relief from viewing the various art rooms. Part of the improved façade is the new entrance, replacing what was a poky side door and foyer with a striking large lobby off Dundas Street. The space has been effectively designed to provide central access to a dedicated membership desk, the cloakroom, shop and ticket desk.

Also accessible via Dundas Street is the new section with a restaurant and café, a two-level gift and bookshop, the Jackman Hall lecture theatre and the Young Gallery - a free space for emerging artists to display projects, open outside regular hours.

The circa-1817 Grange house, located at the back of the AGO, has also been reopened following a restoration project, with 30-minute tours running every hour. The building, recognised as one of 240 sites in Ontario with national and architectural significance, was given to the AGO in 1911 and is now undergoing an excavation which visitors can view.

FOOD AND BEVERAGE

FRANK, a 130-seat casual yet chic restaurant, designed by Gehry, has a menu that

reads like a five-star eatery but without the price tag: mains average at CA\$35.

Directly below FRANK is one of the museum's two cafés. Compared to the sleek espresso bar on the fifth floor, offering south-facing views of the city through its floor-to-ceiling windows, this basement facility is functional and ideal for families. The cafeteria openly promotes environmentally-friendly practices by offering an extensive range of food sourced from local and organic suppliers and sold in 80 per cent biodegradable packaging.

The one-manned espresso bar, on the other hand, is an effective pit stop for gallery-wanders and can accommodate around 26 people. It's on the pricey side, with CA\$3 for a small coffee, but like most elevated eateries you also pay for the view.



New galleries were designed to house the Thomson collection's European objects (above). Gallery space dedicated to the works of Betty Goodwin (right) was also constructed

2002 ORLANDO JO. PHOTOGRAPHY ART © RIZANT PHOTOGRAPHY © ORLANDO 2008
PHOTO: SARA WATKINS © ART GALLERY OF ONTARIO 2008



WHAT'S THE SCORE

SCORES OUT OF 10

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

THERE WAS ALWAYS A VOLUNTEER NEARBY WHO COULD TELL ME ABOUT THE TRANSFORMATION OR THE COLLECTIONS IN DETAIL. THEIR WEALTH OF KNOWLEDGE WAS INVALUABLE

DESIGN

Where there's a source of natural light the AGO feels spacious and refreshing, but some galleries rely on insufficient spotlights. The way the pieces are lit, however, work in relation to the collections' themes: the contemporary art spaces are white-walled, minimalist and naturally-lit open spaces, while the African gallery has dark wood, and some of the European galleries are richly coloured and ornate.

The collections are often displayed in themes rather than by artist or chronologically, and in some galleries pieces are shown in context of how they have taken influence from each other over the decades. Many galleries are interlinked, with rooms within rooms making it a maze at times, but thanks to the sheer space in each gallery, the atmosphere is never claustrophobic, even when busy.

The AGO is wheelchair-friendly from the onset, with a central curly ramp in the centre of the lobby and modern elevators available on every floor – some of which include video art installations. There are multiple seating areas in nearly every gallery, some with coffee table books about the artwork visitors are looking at.

Many of the AGO's design features link: for example, the lobby's ramp mimics the design of the glass cases displaying ship models in the concourse directly below. Being able to see up into the lobby through the ceiling also lets in much needed light. Each cabinet, however, is spot-lit to enhance the models in what is otherwise a dark room.

MY EXPERIENCE

It was the simple features that enhanced my experience of the gallery. These included seating areas with books about the works and artists, drawing stations for those who felt inspired and feedback stations encouraging people to discuss the art work. The interactive media, such as videophones dotted around the gallery, gave viewers the unusual opportunity to listen to the artists discussing their work, or critiques, but very few worked properly. Something that did work well were the free numbers visitors could call to receive information about a piece via their mobile – but these only appeared infrequently.

Posing questions about the works, splitting the pieces up into themes, displaying them on different coloured walls within a single gallery were simple ideas but effective means of engaging my interest.



Caroline Wilkinson

There wasn't a single rope separating the viewer from the art and it was obvious that creators of the AGO had really focused on developing an accessible visitor experience that's not intimidating.

A visitor guide provided an outline of events and a gallery map, but the AGO didn't provide sufficient information about the artworks or the artists either in the guide or in the galleries. The 'hubs' also offered limited information that did little to contextualise or explain its collection.

However there was always a volunteer nearby who could tell me about the transformation or the collections in detail: their wealth of knowledge was invaluable. An audio guide that explains the curator's decisions and Gehry's design would easily fill information gaps, and is one of few finishing touches missing from the AGO.

MARKETING

The AGO has had over 200,000 visitors since November, so it must be doing something right on the marketing side. Within the museum, however, there was a distinct lack of information about the relaunch, and the only mention of what's new about the gallery came on the 30-minute guided tour.

A constant supply of leaflets outlined what was on at the AGO that week, including family weekend sculpture workshops

and temporary exhibitions. But there were also events such as weekly free nights, holiday camps, mentoring programmes and the fascinating excavation at the Grange which deserved more exposure. The AGO website, however, provides a comprehensive overview of its offerings and details of the Transformation. Visitors can download podcasts and video interviews with Gehry and the gallery's director, which can be used during an AGO visit. ●

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Just as each visitor attraction is unique, each has its own ticketing needs. We look at the ticketing solutions provided for seven different attractions in a series of case studies

❖ OPEN FRONTIERS

The client

Go Ape is a forest adventure course with activities including rope bridges, Tarzan swings and zip slides. The treetop attraction has 21 locations across the UK, including four new sites opened this year.

The technology

Go Ape needed a bespoke software solution which could deliver a robust real-time online booking capability, selling a varied shopping basket across multiple channels, for multiple sites. Open Frontiers' Time

Pursuit is a real-time, completely web-based system that can be accessed from anywhere with a web browser; designed to provide fully-integrated solutions, the system is capable of managing on-site sales with e-commerce and call centre sales, and is easily configurable.

How it's being used

Go Ape is using Time Pursuit as its core sales and customer management tool, used to sell its time-based activity slots, related services, merchandise and gift vouchers. Go Ape's latest location at Woburn Safari Park has just implemented

the franchise facility of Time Pursuit. As well, Go Ape will soon become the launch customer for Time Pursuit's new 'packaged event' module for its corporate days.

The outcome

Go Ape has welcomed its millionth customer and the system has processed £20m of business. "Time Pursuit has proven to be an excellent booking and sales management system for our business since it first launched in Jan 2007. It has underpinned our substantial 130 per cent growth in business over the last two years", says Go Ape finance director Paul Rossiter.



❖ GATEWAY TICKETING

The client

Atlantis, the focal point of Palm Jumeirah in Dubai, is a resort that includes a luxury hotel, an aquarium with unique marine habitats, a dolphin interaction facility and the largest waterpark in Dubai, Aquaventure, with a capacity of 8,000 to 10,000 people.

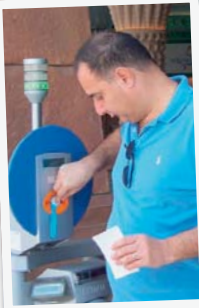
The technology

Gateway provided its RFID wristband solution, designed as a replacement for cash in the park. Guests can purchase and charge a wristband at any Galaxy Point of Sale station in the park, use it for purchases of items including food, beverages and souvenirs, then recharge the wristband when the balance is depleted. Locker purchases are also managed through the wristband.

In addition, Galaxy's full range of ticket sales and admission control solutions were implemented at Atlantis. Besides Galaxy Point of Sale, these included order entry, resource management, manager's workstation, eGalaxy Server, wireless admission control and turnstiles.

How it's being used

Visitors and hotel guests can purchase one- and three-day admissions through Galaxy



POS in the ticketing plaza, the call centre or online. A rechargeable wristband is provided for guests for in-person purchases. For web or call centre purchases, guests receive a confirmation letter or PrintAtHome ticket, which can then be exchanged for a wristband at the ticket window. Visitors and hotel guests purchasing admission from the ticketing plaza can also load value into the band, as well as secure a locker.

Group sales and special events will be managed using Galaxy Order Entry and Resource Management, and Atlantis will be utilizing Manager's Workstation to handle its administration. Manager's

Workstation integrates with Galaxy POS and Admission Control to maintain shift records and control turnstile operations, and managers have access to detailed information regarding orders and capacity-managed events.

The outcome

"At admission, lines are kept to a minimum and guest convenience is optimised with the implementation of wireless handheld scanners," says Gateway Ticketing's Liz Feeney. "SkiData turnstiles facilitate guest throughput, and RFID technology helps to encourage increased in-park spending."

❖ OMNITICKET NETWORK

The client

Water World, a seasonal waterpark in Colorado, one of the largest in the US, with attractions ranging from family tube rides to the thrilling Red Line speed slide.

The technology

OmniTicket, which has supplied Water World with a complete ticketing and access control solution for Water World for over 10 years, supplied a new solution at their turnstiles in 2008 to allow biometric identification holders of the Splash Pass season's pass. The solution was an integrated biometric reader made by Lumidigm. The OmniTicket Overview System software and the system turnstiles integrate seamlessly with the Lumidigm biometric reader to quickly and accurately verify identification of a pass holder without the need for a photo ID.

How it's being used

The park chose biometrics for its Splash Pass to streamline the purchase process



and make the pass more secure, preventing pass holders from sharing their pass with friends to avoid paying admission. Instead of a photo, biometric information to identify the guest is taken from one finger when the Splash Pass is used for the first time. When the pass is scanned on future visits, guests' biometric information is compared to the stored information. The scanner does not collect fingerprints; to maintain privacy, the entry turnstile's scanner scans for swirls and arcs to create a grid of intersecting points, which are then stored as a numeric, encrypted value.

The outcome

"Previously, the client used a photo ID process which was labour intensive, inconvenient for the pass holder and did not offer the highest level of fraud prevention," says OmniTicket Network's Melinda Shishan. "Their new biometric process has allowed the client to cut labour and operating costs previously required to take photos and print out photo IDs, as well as to greatly reduce pass holder fraud." The new solution is also more convenient for pass holders, who no longer need to wait in a separate queue to have photos taken.

* CENTAMAN

The client

John Hancock Observatory in Chicago, an observation deck at one of the city's most recognisable buildings. The popular tourist attraction is the highest public, open-air viewing deck in the midwestern US. A refurbishment of the attraction was completed in November 2008.

The technology

Centaman provided its Enterprise Solution, a single system for online/web sales, group reservations, memberships and annual passes, agent and tour operator sales as well as standard walk-up ticketing. It also contains a point of sale and inventory management system, which is used in a café added to the observatory as part of its recent redevelopment.

The solution components include group reservations, coupons, memberships and bulk ticketing for the sales and marketing department, and ticketing, check in and ticket validation for the POS operator at front desk. Also included in the system is self-service ticketing via kiosks installed in the foyer, self-service ticketing and group reservations for customers online, self-service ticketing for agents, tour operators and concierge online, and point of sale and inventory management for retail and café operations.

Centaman also performed some integration with third party ticket sales through the CityPass scheme to make reporting and validation of the third party tickets seamless in day-to-day operations.



How it's being used

The Centaman software controls all aspects of revenue collection—revenue received via the web, through the kiosks, in the café and at the ticket booth. The reporting functions support total property reporting, including revenue allocation for pre-paid tickets, correct statistical reporting and secondary spending. The technology is used throughout the business for performance monitoring, staff and cash management as well as future planning and budgeting.

The outcome

"It's created faster, more accurate reporting, allowing a more responsive reaction to business performance and trends, and that the web and kiosk technology have opened up more revenue streams while reducing costs of staffing," says Centaman president Mike Korbel. "Also the ability to offer fast-pass check-in for pre-paid and priority customers, streamlined business processes, and additional revenue streams with agent and tour operator online to be added in the future."

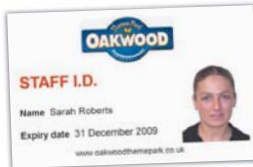
* PAYNE SECURITY

The client

Oakwood Theme Park, located in Pembrokeshire, UK, one of Wales' premier family tourist attractions, offering a variety of attractions from thrill rides – including 'MegaFobia', voted the world's third best rollercoaster – to a children's play area.

The technology

As well as needing identity cards for its staff, Oakwood also wanted a versatile and secure ID format for the park's season ticket holders, and turned to Payne Security to devise an appropriate ID card system suitable for both groups. Payne Security created secure base stock cards for both staff and season tickets, which



are pre-printed to a secure design with the Oakwood logo and website information. The cards are then personalised on site by Oakwood, using simple-to-use ID card equipment supplied by Payne Security.



How it's being used


Once a photograph of the cardholder has been taken by webcam, Payne Security's


ID Pro 7 software is used to position the image on the card template alongside details such as name, expiry date and, in the case of season ticket holders, the membership number. A Magcard Avalon Printer created a high-definition finish for the printed cards.


The outcome

"The secure base stock cards are difficult to duplicate, meaning we can quickly authenticate genuine card holders for improved safety and reduced risk of lost revenue from fake season tickets," says Oakwood marketing manager Stephanie Churchard. "The high quality software and printer provided by Payne Security ensure we can personalise cards quickly and effectively as soon as they're required."

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TICKETING

✱ GAMMA DATAWARE

The client

The Beatles Story in Liverpool, UK, the only visitor attraction in the world dedicated to the The Beatles. The attraction underwent a large expansion in 2008 to coincide with the Liverpool European Capital of Culture.

The technology

Due to its large expansion and the anticipation of significant growth in visitor numbers, the attraction needed a new till system. Gamma Dataware provided a solution including admissions and ticketing, bookings and event management, retail point of sale, catering point of sale, stock control and integrated chip and pin credit card processing. Also included was POS touch screen hardware from Epson, and souvenir ticket printers for the admissions points.



How it's being used

The Beatles Story is using Gamma Dataware's solution to increase operational efficiency and effectiveness in admissions and ticketing, bookings, retail and catering point of sale, stock control and purchase order processing. In addition, the solution aims to deliver detailed powerful reporting information on a real time basis to management for analytical, control and planning.

The outcome

"The software is easy to use and adapts through all our business offerings, including retail, catering and ticketing needs. The 'back of house' package, including bookings and events, helps us to efficiently manage our business on a day-to-day basis," says Mary Chadwick, merchandise manager at The Beatles Story.

One of the benefits is the wide range of reports that can be obtained from Gamma, including visitor analysis, spend per head and the purchase order processing, Chadwick says, adding that the system also integrates with accounts software and reduces administration time. "The Beatles Story is due to expand even further in 2009, and once again has chosen Gamma Dataware as our supplier of all our POS needs," she says.

✱ TOR SYSTEMS

The client

The London Aquarium. Recently acquired by Merlin Entertainments Group, the attraction has just unveiled a major revamp.

The technology

The London Aquarium purchased TOR Systems' fully integrated Maxim Solution in 2007. A fully configured membership module was included with Maxim, and automatic data migration into the new database was performed. The aquarium later added online ticket sales, available 24 hours each day, through the real-time integrated MaximWeb module.

The newly-refurbished aquarium now also contains dedicated tills for mobility impaired clients, and additional Maxim Front of House integrated EPOS units. The new ticketing area has also been relocated for improved visitor access and throughput.

How it's being used

The London Aquarium has been using Maxim for almost two years. Integrated fast

chip and PIN enables queue minimisation. The entire system operates through nine levels of pass-code protected user access. Back of House Maxim has booking, diary, financial, membership and cash-up functionality, with a suite of 40 standard reports, which can be exported to MS Excel or Crystal Reports for further manipulation. These reports aim assist the bookings, membership and finance teams, enabling them to concentrate on their work rather than the mechanics of the software.

Both on-site and on-line ticket sales integrate in real-time, ensuring that the system database is accurate and up-to date

The outcome

"MaximWeb provided a new and exciting sales channel, open 24/7/365 with guaranteed uptime, secure advance payments, minimal staff costs and which provides an income stream entirely independent of the capital's weather conditions at the time of the customer's visit," says John Parker, sales manager at TOR Systems. "Prepayments also tend to enhance customer secondary spend." ●

2000 years of history at Cardiff Castle



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BREWING UP FUN

In December 2008, the newly redesigned Heineken Experience opened in Amsterdam to rave reviews.

Heineken wanted to share its brand values with consumers by converting its existing visitor centre into a one-of-a-kind destination to welcome Heineken fans and turn them into fanatics.

BRC Imagination Arts worked closely with Heineken over two years to design and produce a high-tech, interactive journey through a 140-year-old brewery that includes two themed bars, several multimedia shows, and a motion platform ride. Through a combination of media, technology and great storytelling, visitors are fully immersed in Heineken's rich history and promising future. This is a place where beer connoisseurs can become brew masters, and everyone feels a deep connection to the Heineken brand.

THE CHALLENGE

In the old Heineken Experience, there was a distinct lack of a story line. The sequence of ideas was disordered. Guests were left with one objective: to get to the bar quickly for a free Heineken.

Jean-François van Boxmeer, CEO of Heineken, noted that the former Heineken Experience was fun, but visitors weren't

The Heineken Experience's new design is an immersive multimedia spectacular. BRC Imagination Arts' Greg Lombardo talks about the project

getting "the Heineken message." To become sustainable, the Heineken Experience had to become a must-see attraction that would build brand awareness, reinforce brand identity, convey Heineken's brand values, and emphasize the modern Heineken vision.

Bart Dohmen, BRC Europe managing director, summed up the objectives for the project best when he said: "To meet the growing capacity demands of the existing Heineken Experience and to communicate the Heineken brand values in a more contemporary way, we need to create an

enlarged, unique and highly interactive experience for guests."

THE HEINEKEN STORY

Today's consumers want to be wowed. They're allergic to traditional overt methods of advertising, and they demand a more personal engagement with brands they adopt. They want to feel part of something unique, engaging and authentic.

Every brand has an authentic story to tell. Our mission is to find the heart of that story and express it in a way that emotionally resonates. BRC's Bob Rogers says: "We take what our clients want to say and turn it into something their audiences want to experience."

To find Heineken's authentic story, we distilled 145 years of Heineken history into one powerful theme statement: "Born in Amsterdam, Raised by the World, Cheers!"

Born in Amsterdam - This is the hallowed ground where it all began, the heritage, the process, the quality, as well as the place where the future is made.

Raised by the World - Heineken is a global brand, but deeply respects the local people and traditions of the countries it's sold in. Because of Heineken's quality and social consciousness, the world has made Heineken its beer of choice.



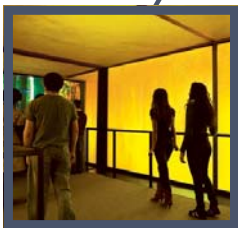
BRC designed the updated attraction, which includes a re-creation of a Dutch 'brown bar' with a virtual bartender (above), and an audiovisual lounge with a backlit ceiling made from Heineken bottles (right)



ALL HEINEKEN EXPERIENCE PHOTOS ©BRC IMAGINATION ARTS, INC.



Tabletops at the World Bar interact with glasses (above); the Beer Tunnel (right) features "walls" of beer



THE BEER TUNNEL WAS ONE OF THE MOST TECHNICALLY CHALLENGING MEDIA PIECES. THE BUBBLES IN THE BEER HAD TO BE PERFECT, AND THE COLOUR HAD TO MATCH HEINEKEN'S STANDARD

Cheers! – A toast. Salud! Prost! Kampai! It's about enjoyment and celebration.

Once we found the story, we had to come up with a way to tell it. While BRC was responsible for every element of the Experience, from graphics and installations to interactives, it was quickly agreed that media would play a fundamentally important role. But, while creating media for one of the world's most recognisable brands is an enormous honour, it also brings with it enormous challenges

Heineken is one of the most sophisticated companies out there in terms of media and advertising, so the media we created had to live up to the high standards the Heineken brand has set. Otherwise, the experience would be a failure. On top of that, media created for a 60-second commercial may run for a few months. The media created for an attraction is expected to have a lifespan of 10 years! We needed to create something that could withstand the test of time.

Now, let's take a look at some key parts of the new Heineken Experience and see how media helped tell that story.

BORN IN AMSTERDAM

This part of the attraction is a re-creation of a traditional Dutch "brown bar". A multi-screen, multi-channel show features a bartender who is digitally projected, life-size, in high-resolution, so that he appears to be standing behind the real bar.

Through a series of highly compos-

ited special effects, the bartender – shot entirely in 4k – takes us on a journey through time to tell us the story of Heineken. Throughout the story he jumps through time by appearing and disappearing into the historical photos that dot the back of the bar. It's a humorous, entertaining, and informative show with a clear message: Heineken is distinctively Dutch.

BREW YOU RIDE

A key objective of the experience was to teach the visitor the unique Heineken brewing process. The challenge is that watching beer brew, no matter how good the final results, is about as entertaining as watching paint dry. As Heineken brand global marketing director Pascal Gilet noted during the Charrette, "People must see how brewing works. We shouldn't let this be a boring educational chemistry lesson. It must be emotional and sensual."

The answer was an immersive 4D motion platform ride where guests actually go through the brewing process and become a bottle of Heineken. Your host, a charming tour guide, takes you through the experience of being brewed, bottled, labelled, boxed and finally shipped to destinations worldwide. Media, a motion simulator and special effects, including wind, heat, bubbles and even water, combine to create an exhilarating experience.

To create the media for Brew You, BRC shot a live host against a green screen while he rode about in a motion control-

led giant bottle cap. We combined this footage with built sets – including a giant mash tank, digital set extensions, and special effects – to show the brewing process throughout different stages. For the bottling portion of the ride, we had to place cameras inside the machinery of Heineken's s-Hertogenbosch Brewery.

Finally, because guests experience one of three different endings at the conclusion of Brew You, we had three separate location shoots: A beach party, a ski lodge party, and a city rooftop party.

The clear message, presented in a wildly entertaining way: the key to Heineken's great taste is the attention paid to detail.

BEER TUNNEL

In the Beer Tunnel, visitors walk through a tunnel surrounded by Heineken's signature golden beer as if it's being poured onto the ceiling and running down the walls all around them. It proved to be one of the most technically challenging media pieces in the whole Experience.

We were featuring the product, and the product is God. That meant the bubbles in the beer had to be perfect, and the golden colour of the beer had to match Heineken's strict standard. We pored over Heineken commercials, and went to their head of worldwide advertising who pulled the best "pours" ever filmed so the designers could duplicate effervescence and colour in the media they created.

Secondly, the entire effect had to be

built with motion dynamics. Then the media was sliced into different channels that had to be seamlessly matched, framed, then rear projected in HD on the walls and the ceiling of a 25-foot long tunnel. Not an easy task, but the end result is a fabulous, eye-popping media effect that puts guests inside a Heineken glass.

RAISED BY THE WORLD

Heart-pumping sound floods this room in a spectacular multimedia presentation that highlights memorable moments from Heineken-sponsored events and commercials. Inviting and energizing, this 'lounge' is equipped with comfy green seats.

BRC combed through all the best Heineken advertising work and cut together a splash reel that's presented on two mirrored three-screen shows. The shows are mirrored to provide optimum viewing angles to all guests in a lounge-style flexible seating arrangement. Two screens over the doors complement the action of the show with ambient visual effects. Overhead, the entire ceiling is covered with thousands of iconic green Heineken bottles, creating an undulating chandelier, backlit by DMX lighting that pulses to the music. This high energy sound, light, and media show gets loud – pushing 90 decibels, and communicates a fresh, worldly, and sophisticated brand.



The brown bar's digitally-projected bartender tells visitors the story of Heineken

Best of all, the seats are moveable and the show control panel has separate presets which allow Heineken to change the space to suit their specific needs for special events and corporate gatherings.

WORLD BAR

The last stop of the Heineken Experience is the World Bar. As you look out the bar's panoramic "windows", you see images of famous cities around the world. Every few minutes, the bar "moves" location to another city. During your 30-minute stay in the bar, you will travel to the Heineken

brand's five major metropolitan markets: New York, Hong Kong, Rio, Paris and Moscow. Eight interactive tabletops within the bar change appearance depending on the current city and respond to your glass of Heineken. Setting a glass on the tabletop triggers video animations that let you discover interesting facts about that city and Heineken's role in this location.

To create the photo-real effect of the "windows" in the World Bar – which is actually set in an old tank in the basement of the brewery – BRC shot high-resolution panoramic stills of the five featured cities on a special sphere camera. The

MULTIMEDIA & AV NEWS ROUNDUP



BLACKBOX TELLS THE INNISKILLINGS STORY

Blackbox-av has installed a mixed hardware and software project for The Inniskillings Regimental Museum in Enniskillen, Northern Ireland, which has expanded to include the history of the 5th Royal Inniskilling Dragoon Guards.

Blackbox-av's Touchscreen kiosk systems were installed, and the company's in-house creative team produced new multimedia interactives on WW1, the evolu-

tion of the tank and the important WW2 Battle of 's-Hertogenbosch.

Programmers and graphic designers pored over hundreds of images of tanks, tactical maps and WW1 material, whilst a Blackbox-av film crew worked with a team of historical interpreters at a re-creation of a trench system in Suffolk to film battle-definition material for a Battle of the Somme interactive. ●



ANIMATION BRINGS CHARACTERS ALIVE

Audio visual specialist PSP has joined forces with multimedia company Writemedia to launch Animation, a fully interactive animated character system.

Aimed at live events, visitor attractions and theme parks, Animation uses a motion capture system based on an actor wearing fibre optic sensing devices. The devices capture the actor's every movement.

The movements – including detailed facial expressions – can then be projected in either 2D or 3D format to create an interactive, walking, talking character controlled by the actor.

The system made its debut at an event at the BFI IMAX cinema on London's South Bank, with Apple co-founder Steve Wozniak, who was interviewed by a "virtual humanoid". ●

panoramic images are put to motion and displayed on 48 LCD screens set into fabricated frames to create the illusion of windows in a rotating bar. To further the hyper-real effect, moving 'live-action' images are embedded in the media. For instance, look closely at Victoria Harbour in Hong Kong and you'll see boats moving across the water.

THE RESULTS

The BRC team had a great time creating the new Heineken Experience. The media-driven attraction not only perfectly represents the rich history of Heineken, and the company's promising future, but a next generation of visitor experience. We believe it will engage and entertain fans from across the world for years to come.

Heineken's team is also pleased. The new Experience delivers on the promise of authenticity at the high quality level associated with the brand. The attraction's manager Hans Maris puts it best: "We're very proud of the unique experience we've created. The new approach brings to life our passion for the quality of the beer we brew, our great respect for people, cultures and the world we live in, and our commitment to the responsible enjoyment of our brands." Cheers to that. *Greg Lombardo is director of brand experiences for BRC Imagination Arts* ●

South African Breweries' World of Beer

The Heineken Experience isn't the only multimedia-heavy beer-themed visitor attraction that's relaunched recently. In November 2007, Mather & Co completed a 23m rand redevelopment of the SAB World of Beer in Johannesburg—one of South Africa's top visitor attractions. "The aim was to provide a multimedia extravaganza, complete with special effects, video, music and theatrical lighting, telling the story of beer to visitors," says Chris Mather, managing director of Mather Co. "The design needed to have lasting appeal and also confirm SAB as the authority in brewing."

The centerpiece of the project is a panoramic film shown in a 180-degree theatre on a 9m-wide wrap-around screen. Mather & Co commissioned Manchester-based Graham English and Co to create the eight minute film celebrating South African culture and the SAB brand. The theatre is part of the attraction's Brands Centre, where visitors can access facts and TV com-

Mathers & Co created a panoramic film as part of the design



mercials for their favourite brands on 11 interactive stations.

In another exhibit, 3D-lenticular graphics were used to create massive walls of liquid beer to explain the brewing process. Elsewhere in the venue, Peppers Ghosts, animation and animatronics are used to bring a mining scene to life, and 3D rear projection video to create an Indiana Jones-style show in the depths of an ancient Egyptian tomb. "Each scene throughout the attraction has been treated as a one-off show to enhance the impact and experience for each visitor," Mather says. ●



LONDON SEEN VIRTUALLY FROM TOWER BRIDGE

Saville Creative has created a package of interactive 'fly-through' features for the City of London as part of its Tower Bridge Exhibition.

From the high-level walkways of the iconic structure, visitors can use a series of kiosk touch-screens to locate, 'visit' and learn about the city's famous sights.

Included are computer-generated graphics of St Paul's Cathedral, Canary Wharf, the

Tower of London, maritime Greenwich and the London Eye.

The kiosks are controlled via software with built in EDICT programming (Electronic Data Information Capture and Transfer), a system that tracks and logs detailed usage statistics of each touch screen unit. This allows the client to measure which areas or sights are most popular with visitors. ●



E/T/C LONDON ILLUMINATES YORK

Large scale projection specialists E/T/C London produced a centrepiece show for the 10-day 'Illuminating York' event.

The work, called "Accendo", involved two independent but complementary video and film projection shows running concurrently.

One was projected onto the ruins of the 10th century Benedictine Abbey of St Mary's,

and the other onto the Yorkshire Museum, with both buildings located in Museum Gardens in the city centre.

Using the topics of astronomy, geometry, mathematics and music as inspiration for the demonstrations, E/T/C developed these into two 13-minute projection shows. The firm was commissioned by Visit York to create the spectacle. ●

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IT'S ALIVE!

The sophisticated new wave of animatronic and robotic creations combine extremes: awe-inspiring size, with subtle nuances of movement for extra realism. Kath Hudson reviews some of the latest projects

GARNER HOLT

YETI

Garner Holt's nine-foot Yeti, will be revealed later this year, is described by its creators as the next step in the progression of artistic and technological breakthroughs in animatronics. With a focus on realism in movement, the company claims to have created something with real personality.

"We wanted the Yeti to be the most sophisticated animatronic in the world and to have such a range of motion and expression that blur the line between animatronics and real life," says Garner Holt's marketing coordinator, Bill Butler.

A great deal of research was required to make him a realistic character, combining aspects of various representations of the Yeti from all over the world. The sculptors created enormous

hands, and a head, face, feet and chest pieces which show age with wrinkles and imperfections. The mechanical technicians created more than 160 individual motions, and fabricators worked months creating moves from entire body lifts to tiny nostril flares. He can wiggle his toes and replicate most human facial motions.

Using a database of stored imagery, the Yeti can remember faces seen through cameras in his eyes, as well as hand gestures and other characteristics about things he sees. "His actuation is also unique," says Butler. "We wanted to create a new form of electrically-activated animatronic, smoother, quieter, cleaner and more environmentally-friendly than traditional hydraulic systems."



The Yeti can replicate almost every human facial motion



RoboThespian speaks six languages

ENGINEERED ARTS

ROBOTHESPIAN

From Engineered Arts in the UK, RoboThespian is the first commercially available robot actor. Designed to communicate and entertain, it can deliver pre-recorded content or interact with the public. Web-connected, it can be controlled remotely to become a telepresence.

Starting life as a theatrical animatronic, it has taken five years to evolve the RoboThespian idea, and currently a development team of six people work full time on RoboThespian. It now speaks six languages: English, German, Dutch, Spanish, Polish and Arabic, and Chinese and Portuguese will follow shortly.

Engineered Arts director Will Jackson says the project requires expertise in many disciplines. "Technical wizardry is not enough on its own. The key to RoboThespian's success is as much about his singing and impersonations as it is about motors and software. The greatest

challenge is creating entertaining content."

Sophisticated tools have been developed to create robotic performances, such as the motion capture suit, which works over Wi-Fi and makes the robot copy the movements of the operator, who can see through the robot's eyes through a camera.

Jackson says RoboThespian's adaptability is also part of its appeal. "The sophisticated control capabilities and flexibility make it of interest to robotic researchers, and its entertaining humanoid behaviour make it a hit with the public. The key is versatility – it's designed to be customised for specific applications."

RoboThespian can currently be seen at Parque de Las Ciencias in Spain, Indusion in the Netherlands and Future World in the UK. An installation with three robots acting out science fiction stories opens at the new Copernicus Science Centre in Warsaw next year.



PHOTO: MATTHEW ANDREWS

The 15m (50 ft) spider needs 12 operators strapped to its frame

LA MACHINE

LA PRINCESSE

A 15m (50ft) spider was the highlight of Liverpool's European Capital of Culture celebrations in September 2008. Dubbed La Princesse by her creators, French theatrical engineers La Machine, the spider represented robotics and street theatre on the grandest scale.

La Machine's founder, Francois Delarozziere – also responsible for the giant robotic elephant that visited London in 2006 – was commissioned by the Liverpool Culture Company to come up with something equally arresting. Liverpool wanted something to delight and involve those

working, shopping and visiting the city.

The resulting giant arachnid was first spotted clinging to a building next to the railway station, and for the next five days the spider roamed around Liverpool, winning the hearts of even the most spider-phobic, before finally going to sleep for the last time amid a snowstorm.

The spider was a collaboration between La Machine and events organisers, Artichoke, with logistics organised by Unusual. The show involved fire, water, wind, sound, smoke, light and snow, all designed and tested at La Machine's sec-

ond workshop in Toulouse.

Made out of steel and poplar wood, the spider needed 12 operators strapped to its frame. The resulting show was more like a major town planning project than a free art display: roads had to be closed and traffic lights removed. Special rigging was also required to enable the spider to scale buildings around the city.

The spider's next outing will be Yokohama later this year, and La Machine is currently working on its next project: a carousel with a twist, featuring giant insects large enough for adults to ride.

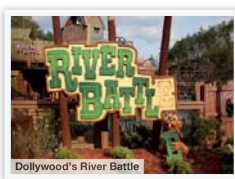
LIFEFORMATION

PIGEON FORGE WALKTHROUGH & DOLLYWOOD'S RIVER BATTLE

Lifeformations has been focusing on audience interactivity with its latest animatronic installations, which all have a humorous twist.

Last year, the company completed a 5,000sq ft (465sq m) interactive walkthrough for US attraction Pigeon Forge, using seven robots as the guides. The figures have their own personalities: for example, the secretary robot, Secra Terry, is made up of a typewriter, phone, pencils, pens and horn-rimmed glasses. Each figure has been created to complement the room and reinforce the storytelling.

"The attraction is really one of the first of its kind," says Lifeformations producer, Bret Woodbury. "The walk through is totally



self-guided, with a little help from the animatronic figures which tell the audience when it is time to advance to the next area."

The company also provided the animatronic figures which spray water at riders of Dollywood's River Battle ride in the US.

The ride goes through a flooded river plane, and the animatronics are cartoonish river animals that spray water at guests.

Through a proprietary targeting system, guests activate the targets with water sprayers. Once a target is triggered the corresponding show special effects run, including shooting plumes of water 20ft (6m) into the sky.

"Along with all of the new developments, we've been having a bunch of fun creating never-before-seen figures," says Woodbury. "Living statues which are 12ft (3.5m) tall, a horse riding a cowboy and a whole slew of other wacky and whimsical figures that continue to engage the mind and tickle the funny bone."

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London's Natural History Museum and Japan's Kokoro created a lifelike Rutiodon and Dimetrodon (inset) for Gondwana - Das Praehistorium in Germany

NATURAL HISTORY MUSEUM/KOKORO

GONDWANA DINOSAURS

Gondwana - Das Praehistorium in Reden, Germany opened a new dinosaur exhibit before Christmas. CEO Michael Kuhl wanted realism: for barriers to be minimal and for visitors to feel they were in the same room as live creatures.

London's Natural History Museum and Japan's Kokoro were charged creating completely realistic animatronic dinosaurs that could reliably work in water. Kokoro had to develop new methods to achieve this. With the Rutiodon, an early crocodile, the tail had to half float and half sink, without putting a strain on the mechanics.

Wildlife photographer David Lazenby of Lazenby Design was the designer and art director, and it was his responsibility to make the experience believable. "We gave Kokoro a very particular brief. We didn't want random, pointless movements for the sake of it, we wanted everything to be authentic," he says. "The animatronics were different in as much as there was a great focus on subtle movements, such as the T-Rex's head vibrating when he roared. We also wanted more detailing on the skin and the structure of the skin. The Rutiodon really does look very crocodilian in its skin

tones and not artificial at all. The plates making up the skin move over each other as a crocodile's would. When it strikes it swings its tail in a very convincing way."

The same detailing went into the environment, with overhanging mudbanks and thousands of roots. "It looks very busy because nature is busy, and dirty," says Lazenby. "One woman's sole job was to make ooze come out of rock cracks!"

Phase two, now under construction, will document the period from the end of the dinosaurs to the ice age, with a climactic scene Lazenby promises will be very special.



The robocoaster is part rollercoaster, part robot

KUKA ROBOTER

ROBOCOASTER

German industrial robot pioneer KUKA Roboter is the creator of the first licensed passenger-carrying robot: robocoaster. As the name suggests, this is part rollercoaster and part robot.

The kinematic system has six rotational axes and offers a thrilling experience, as passengers have no idea what's coming next. Rides can vary from a gentle swinging action to hanging upside down and rocketing to the skies.

The robocoaster has been put to imaginative use at French theme park, Futuroscope, where it's used as part of the Dances with Robots experience. Ten robots, standing seven metres (23ft) high and moving along six axes with acceleration to 3G, whizz riders around in a specially choreographed dance.

For those who are too faint hearted to try it, it's a good ride for spectators too, as a dance designed and performed by French choreographer Kamel Ouali, especially for Futuroscope, is shown on a 33m (108ft)-long cylindrical screen as the robots dance.

Another application of the robocoaster is RoboSim, which made its debut at French ski resort Les2Alpes in 2008. This two-seater capsule fastened to a robot arm has six degrees of freedom and uses a 20" LCD flat-screen monitor and wind effects to simulate skiing, as well as what it would be like to be caught in an avalanche.

Head of industrial business development at KUKA, Alois Buchstab, says: "Safety is the most important aspect of our entertainment branch. KUKA Robots have authorisation to transport people." ●



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INTERNATIONAL

LARGE

The Giant Screen Cinema Association's Film Expo 2009 saw the screening of 10 new giant screen films and the discussion of the latest issues affecting the industry, from digital projection to dome theatres. James Hyder reports

Nearly 200 delegates attended the Giant Screen Cinema Association's annual Film Expo in Los Angeles, March 17-18, 2009. The highlight and primary purpose of the Film Expo was the screening of 10 new GS films, but there were also previews of an additional 17 films in progress as well as committee meetings over the two busy days.

With 233 members, the GSCA is the international trade association for giant-screen theatres, film producers and suppliers. It's the successor to two previous organizations, the Giant Screen Theater Association and the Large Format Cinema Association, which unified in 2006.

Two other groups serve the worldwide giant screen community of nearly 500 theatres: Euromax in Europe, and Oh-gata in Japan. The three work together collegially and have overlapping boards of directors.

BEYOND FLAT SCREENS

On the day before the conference proper, a number of interest groups met, including the Dome Alliance, the 3D Interest Group and the Museum Film Network. Delegates from these respective theatre types met to discuss ways to support production of films that meet their particular needs.

Of approximately 285 non-multiplex GS theatres in museums, science centres, theme parks and standalone venues, about 115 have dome screens. They prefer to show films that take their unique screen



Mysteries of the Great Lakes was one of the new films screened at the expo

geometry into account, providing a more compelling experience for their viewers than movies shot for flat screens.

Likewise, 3D theatres naturally prefer 3D films. Although 3D titles are now much more common among the Hollywood features that multiplex theatres show, the greater expense of 3D production means that a relatively small percentage of those films shot specifically for giant screens are shot in 3D. Depending on how it suits budget, location, and production goals, a live-action producer may opt for direct 3D capture (suppliers of 3D cameras and rigs include IMAX, SimEx-Iwerks, MSM Designs and 3ality) or to digitally convert 2D footage. (Sassoon Film Design is a prolific provider of this service).

On the day after the Film Expo, the GSCA sponsored a Dome Day at the Reuben H. Fleet Science Center in San Diego. Some 50 delegates traveled from Los Angeles to see several of the new

films on the world's first IMAX Dome theatre, recently refurbished with a new Spitz NanoSeam screen. These screenings allowed dome operators to judge how the films would appear in their theatres.

DIGITAL PROJECTION

The vast majority of the GSCA's theatre members have film projectors that run 70mm film in the 8/70, 10/70 or 15/70 formats. However, like their cousins in conventional theatres, GS operators and producers are confronting the reality of digital (and digital 3D) projection. But unlike the situation in the multiplex world, where open technical standards were developed that spawned a wide selection of compatible projectors from multiple vendors, options for converting from GS film to digital projection are not as clear.

Last summer, IMAX Corporation rolled out a proprietary digital projection system designed to be installed in existing 35mm multiplex auditoriums with screens up to 70ft wide. In 2008, about 50 of these systems were installed in the US, UK, Australia, China, Russia and Japan, and the company plans to install 75 in 2009, bringing the total to 125 by year's end.

What's the case for giant screens?

"Unlike other more expensive attractions, like dark rides, roller-coasters, or live-action shows, giant screen films, particularly in 3D, can offer the guest a chance to rest, be entertained and educated, and to experience the world outside the immediate region. That's why Disney continually includes films as part of their mix of attractions." - Greg MacGillivray, producer/director MacGillivray Freeman Films



(Above) *Monsters vs. Aliens* was screened for conference-goers a week before it debuted to the public. (This photo and right) *Under the Sea 3D* was also screened



However, IMAX admits this system isn't suitable for most of its existing 15/70 film theatres, which have screens averaging 60ft tall and 80ft wide, and that it may not have a digital replacement for 15/70 film for at least several years.

In the meantime, GS theatres are looking at ways to adapt existing digital projectors to their needs, and paying close attention to new technological developments. A few, notably in Copenhagen, Stockholm and Paris, have used multiple digital projectors to fill their dome screens while leaving their 15/70 projectors in place. However, in the absence of technical standards and digital replacements that are clearly superior in image quality to the bright, ultra-high-resolution 70mm film systems, most theatres are cautiously playing the waiting game in the hope that a clear path forward will soon emerge.

Some industry players – including members of IMERSA, a new trade group supporting the growth of "fulldome" technology, a digital dome exhibition format popular in planetariums – predict an eventual convergence of formats, standards and content between the giant screen and planetarium worlds, especially for dome theatres.

What's the case for giant screens?

"The advantage is that the audience feels immersed in the experience. The audience is closer to the screen and the usual aspect ratio of 1.3:1 contributes to this overall feeling. In the best theatres, the sound quality is superb. Many theatres are also showing content in stereoscopic 3D, and the image quality and brightness from two projectors is very good. Extra effects – 4D or even 6D – can further enhance realism. "IMAX have recently introduced their digital large screen system; these screens typically have an aspect ratio of 1.77:1 and are less high than the traditional large format IMAX theatres. Nevertheless, the immersive experience is very similar, and superior to the 'normal' multiplex auditoria in terms of picture quality (particularly in 3D) and sound quality. "Digital projection eliminates the high cost of providing a film print (doubly expensive in 3D), and also avoids any risk of degradation of image quality over time. It can also produce even better 3D images." – Andrew Robinson, managing director, Harkness Screens

However, cultural, business, and technical hurdles stand in the way of such a blend.

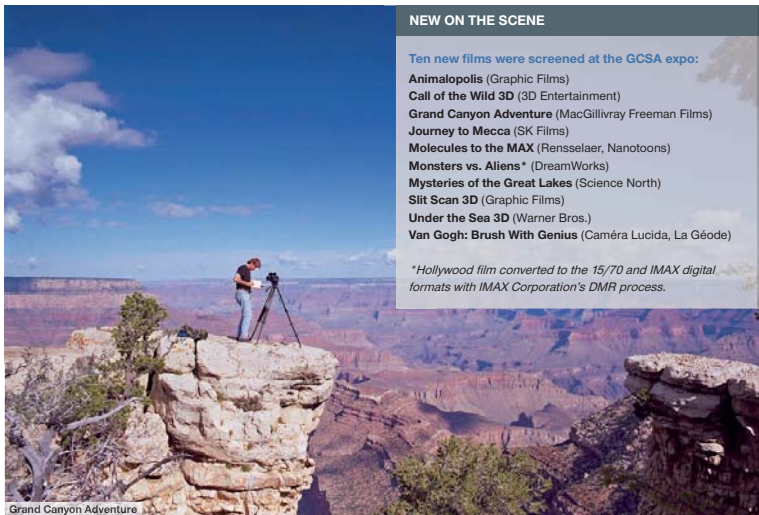
The GSCA has begun taking steps to help members deal with the inevitable digital transition. One step is the formation of two ad hoc task forces. The Technical Task Force is charged with helping define in objective, technical terms, without reference to brands or technologies, what makes the giant-screen experience different from the wide range of other forms of out-of-home entertainment. This task force is examining factors such as the viewer's angular field of view, image resolution and image brightness, and is collecting data on the existing base of theatres.

The Marketing Task Force is developing methods and techniques that members will be able to use – regardless of their brand of projector – to help clarify the public's perceptions of the giant screen experience.

Both committees have just begun their work, and reported modest initial accomplishments at the Film Expo. More is expected when the association holds its major annual conference and trade show in September in Indianapolis, US.

COMING SOON

At least 10 films from major Hollywood studios will play in IMAX theatres in 2009. They include new episodes of blockbuster



Grand Canyon Adventure

NEW ON THE SCENE

Ten new films were screened at the GCSA expo:

Animalopolis (Graphic Films)
Call of the Wild 3D (3D Entertainment)
Grand Canyon Adventure (MacGillivray Freeman Films)
Journey to Mecca (SK Films)
Molecules to the MAX (Rensselaer, Nanotoons)
Monsters vs. Aliens* (DreamWorks)
Mysteries of the Great Lakes (Science North)
Slit Scan 3D (Graphic Films)
Under the Sea 3D (Warner Bros.)
Van Gogh: Brush With Genius (Caméra Lucida, La Géode)

*Hollywood film converted to the 15/70 and IMAX digital formats with IMAX Corporation's DMR process.

franchises such as Harry Potter, Star Trek, and Transformers, as well as highly anticipated works like Robert Zemeckis' A Christmas Carol starring Jim Carrey, and James Cameron's Avatar.

GSCA conferees saw Hollywood's latest 3D hit, DreamWorks' Monsters vs. Aliens, more than a week before it opened to the public, along with trailers for Star Trek: The IMAX Experience and Harry Potter and the Half-Blood Prince. Major studios aren't the only ones putting 3D into commercial theatres – on the heels of international success in 2008 with the animated release Fly Me to the Moon, independent producer/distributor nWave Pictures showed footage from Around the World in Fifty Years. Like Fly Me to the Moon, it will be packaged as a full-length feature for mainstream theatres, a 40-minute GS offering, and at least two 12-minute attraction films.

What's the case for giant screens?

"The most compelling argument for the technology is the available content. Digital cinema means film can be made and released quickly and cheaply, covering a wealth of languages and topics and giving theatres freedom of choice over their show portfolio (something that has been long-awaited to satisfy the diverse requirements of science centres, institutions, entertainment centres and theme parks). Popular media such as gaming, music and real-time applications are becoming common in these giant cinemas. "The beauty of digital systems is that they are fully scalable in terms of brightness and contrast. When done properly, the integration of multiple projectors can provide a highly immersive and overpowering experience, a compelling reason for a paying visitor to come to your facility." – Beth Nicholas, marketing manager, Global Immersion

The original, non-Hollywood films coming to GS theaters this year in the usual 40-minute length represent an unusually eclectic mix, largely eschewing the traditional science or nature-related documentaries. They include two animated films that deal fancifully with scientific subjects: Molecules to the MAX and Quantum Quest; Journey to Mecca, a film about a famous Islamic pilgrim; Van Gogh: Brush

With Genius, a film about the famous painter reported to have drawn record attendance at Omniversum in The Hague; and Animalopolis from Graphic Films, which has the flavour of a children's book, complete with rhyming narrative.

However, traditional GS documentaries are represented by Under the Sea 3D from Warner Bros. and IMAX, Mysteries of the Great Lakes from Science North, and Legends of Flight from prolific director Stephen Low. (The latter was not presented at the Film Expo.) RPG Productions, a familiar name in GS post-production, has stepped into the distribution arena for the first time with Sharkwater and Pangaea.

James Hyder is editor and publisher of LF Examiner, a business newsletter covering the giant-screen film industry.

Judith Rubin, freelance editor for the attractions industry and communications director for IMERSA, contributed to this article. ●

What's the case for giant screens?

"Fully digital theatres and cinemas have a lower cost of ownership than film-based ones because operators don't have to change films and store them. Everything is kept digitally on a server and is downloaded/uploaded as needed. Film tends to be more of a restrictive media that has to be used for a particular environment. With digital, the content can be tailored for its use, whether it's a big screen, curved screen, dome theatre or even scenery in a traditional theatre.

"The special venue content, previously dominated by IMAX, is now moving into digital domain in terms of films and new productions and as a result the content being made for screening digital is really exciting at the moment. The more content that a venue has, the more sustainable it will be. Also with digital systems, operators can do special venue cinemas in support of other activities or exhibits." – Blair Parkin, managing director, Visual Acuity

Planetariums: all grown up.



Sangam Observatory Definiti theater, South Korea
Screen image: fulldome show Astronaut, produced by National Space Centre



Large-screen Definiti projection system, graphics by Sky-Skan and the National Space Centre, Challenger Learning Center, South Korea

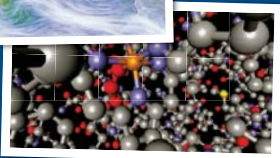


Definiti GaiaSphere rear-projection dome installation, Kifissia, Greece



Sky Touch interactive weather simulation: for exhibits, Definiti GaiaSpheres, and Definiti fulldome theaters

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Challenger Center photo courtesy Challenger Center for Space Science Education and Sangam Observatory, South Korea. © Sky-Skan, Inc.

BUILDING PARADISE INDOORS

Indoor waterparks offering visitors year-round escapes have been increasing in popularity. Four of the industry's foremost indoor waterpark experts talk about design and the latest trends

CORRY CLOWARD

PRINCIPAL
CLOWARD H2O

Indoor waterparks have opening around the world over the last few years. Once considered a novelty, they've matured into a leisure industry mainstay.

So what makes these facilities so popular? For guests, it's the opportunity for

summer activities year-round. Advances in structural technology are creating bigger, more open indoor spaces, and designers are filling these with more exciting attractions all the time. New glazing technology allows more natural light in, creating perfect summer conditions even when a blizzard is raging outside. The ability to control the environment allows these facilities to be built in literally every location and climate, from resort areas to cities.

'STAYCATIONS'

The current financial climate has meant many people have curtailed vacation plans. Indoor waterpark resorts near urban population centres have taken advantage of the situation and are marketing 'staycations', allowing locals a vacation without leaving their city. Chicago's Key Lime Cove, for example, provides guests with the perfect tropical vacation in the middle of winter, all a few short miles from home.

The key to creating a great 'staycation' lies in the creation of a true getaway experience without the hassle and expense of getting there. The indoor waterpark resort industry has benefitted from the lessons learned in the theme park industry. Specifically, people seek out immersive experiences that reach all of the senses. They are looking to create lasting memories. A collection of outstanding pools and rides is obviously a critical component to a successful indoor waterpark resort. The next important key to success is to place that collection of rides and pools in an immersive themed environment.

Key Lime Cove is themed as a Caribbean getaway adventure, with inspiration taken from the Florida Keys. The



Key Lime Cove's Caribbean theming extends to its shops and eateries

CHUCK NEUMAN

PRESIDENT
WATER TECHNOLOGY

The market transition taking place all around us will require some true 'out of the box' thinking from both owners and designers of indoor waterparks. The size, shape, and content of these venues and the associated hotel areas may require a redesign to obtain financing in a conservative market and develop a suitable return on investment.

There are basic elements that comprise every project, and there must be a harmony between them to achieve success.

Capital expenditure – it appears that in the future the threshold for obtaining financing will not be the same as in the past. We will need to get more out of less.

Equity – the scrutiny of deals will be much more detailed, and the equity required to secure the funding more intense. The end result will likely be a reduction in projects that have the ability to raise equity.

Design and entertainment value – it's essential that we maximise the value of the

indoor area, because it may be a smaller footprint than what we used in the past. The industry needs to explore new methods of combining both wet and dry play in order to achieve the entertainment value necessary for project success, while at the same time reducing capital outlay.

Operational costs – many current indoor waterpark owners have discovered uncontrolled operating costs will drive them out of business. The buzz words today are sustainable and green. We need to be sure while striving for a green facility that we understand what that means in terms of



PHOTO: ISTOCKPHOTO.COM/SHIRLEY AU

waterpark is an island beach party. Bright colours, tropical plantings and island architecture and décor contribute to an immersive experience. Restaurants offer island fare, from snacks to fine cuisine. Shops offer island wares, from native style crafts to tropical beach ware. The hotel rooms become a private island retreat.

GOOD INVESTMENTS

Just how good of an investment is the indoor waterpark? A study of indoor waterpark resorts prepared by JLC Hospitality shed some promising light on these facilities. Hotels with an indoor waterpark achieve higher occupancy rates, longer stays, higher room rates, and greater revenue per room than similar hotels without one. Additionally, the increased stays translate to increased revenues from food and beverage outlets and in-house retail centres. There is a cost to building the waterpark, but the study shows that over time, facilities with an indoor waterpark generate an annual rate of return of 14 per cent to 24 per cent, compared to returns of 10 per cent to 12 per cent for those without one.



Many of the newest indoor waterparks are part of a larger resort or mixed-use facility. Some facilities that have found success in the US consist of a hotel or condominium development, along with convention facilities and the indoor waterpark. Some of the most successful facilities take advantage of existing attractions, both natural and man-made. Ski resorts, amusement and entertainment centres and established tourist destinations of all types have proven to be a perfect source of synergy for these developments.

New and existing properties looking to increase revenue can capitalise on the popularity of indoor waterparks. There are a few keys to success when adding an indoor waterpark to a property. First, remember that the waterpark is for everyone – adults, tots,

teens and tweens. A good design will have something for every group. Second, it's all about the experience. Create a total environment that appeals to all the senses. Third, go vertical. Building space has a cost. The more you use the entire volume of the space instead of just the footprint, the better the return on your investment.

Fourth, water quality and air quality should never, ever be overlooked – these two elements are integrally connected to the bottom line. If air and water quality are poor, your building could literally fall apart. Guests will be uncomfortable, which means they won't be back, and neither will any of their friends after they're told about the trip. Fortunately, good air and water quality are not difficult to achieve. Be sure to hire good professionals for the best results.

Finally, sell it! Invite the world to come and make memories. If you build it, they will come – but only if they know about it.

Corry Cloward has spent the last 20 years designing waterparks, pools, fountains, aquariums, marine parks and indoor waterparks around the world. Founded in 1977, Cloward H2O has gained worldwide recognition as one of the world's top water feature design firms.

operating costs. The goals are not always totally in alignment.

During design, key areas including the building envelope, HVAC, humidity control, electrical consumption and water usage should be the focus. The other focus is a concentration on reducing labour costs. Keep in mind that all of the design expertise available is for naught if an operational regime is not established on a programme.

The future holds some very interesting challenges, but at the same time some unimaginable opportunities that will allow our industry to move forward.

THE FUTURE HOLDS SOME VERY INTERESTING CHALLENGES, BUT AT THE SAME TIME SOME UNIMAGINABLE OPPORTUNITIES THAT WILL ALLOW OUR INDUSTRY TO MOVE FORWARD

Chuck Neuman is founder of Water Technology and has a broad range of experience in aquatic facilities, including the design and construction of indoor and outdoor projects, from public aquatic centres to commercial waterparks.



RYAN SNYDER

MANAGER, PROJECT PLANNING
AQUATIC DEVELOPMENT GROUP

Efficiency is the watchword for today's indoor waterpark designers. As the indoor waterpark industry grew in North America the late 1990s – with larger indoor parks beginning to feature attractions and entertainment value comparable with those of the largest outdoor parks – the cost of construction materials steadily increased, along with labour and energy costs. As such, the major underlying challenge of designing and building indoor waterparks and leisure facilities today is finding and implementing efficiencies wherever possible.

Minimising the building footprint and interior volume of the aquatics space while maximising the entertainment capacity is one major trend today. This can be accomplished through the layering of spaces – stacking and overlapping various support area spaces including lounge decks, circulation spaces, slides, and play features via the use of mezzanines, bridges, 'underground' spaces and changes in deck levels.

Energy efficiency is also a major trend. Energy required for artificial lighting during the day can be



According to Ryan Snyder, efficiency is just as important as thrill rides

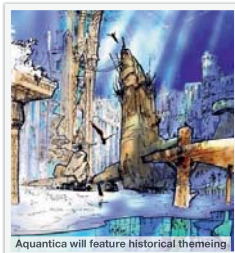
PHOTO: ISTOCKPHOTO.COM/ALICIA DE NIS

reduced through the use of natural light, with an energy transmitting transparent roofing system such as Texlon. The sun-driven heat gain also helps reduce the required make-up heat demand on the air handling equipment, thus reducing energy costs. Transparent roofing also allows the growth of live vegetation and provides sun tanning to visitors during even the harshest of winter months. Along with energy efficiency, water efficiencies are crucial for many areas of the world, and by utilising

water saving filtration systems designers can maximise efficiency and minimise the need for outside water sources.

Within the relatively new realm of indoor waterpark resorts, additional levels of staffing and technical expertise are needed for facilities to achieve their full potential. Careful planning from the start can reduce the number of staff, from retail to maintenance, needed to oversee operations – for example, through locating similar spaces adjacent to each other at the design stage. Also, through creative design and engineering, aquatic spaces can be created that only require the minimal amount of lifeguarding to make them safe, while offering fun, unique, and enjoyable places for guests to return to time and again.

Ryan Snyder is a senior designer with the Aquatic Development Group. He has over eight years' experience in the aquatics leisure industry, and over a decade's experience in traditional architecture, planning, retail and fitness facility design.

INDOOR
WATERPARK NEWS

Aquantica will feature historical theming

AQUANTICA DESIGNS UNVEILED

Designs have been unveiled for an ambitious indoor waterpark set to open as part of the €17bn (£15.5bn, US\$23bn) Gran Scala leisure city under construction in Aragon, Spain.

Designed by architect Cent Alantar, the waterpark will be located within the Spyland theme park, and will feature both indoor and outdoor rides, including water slides, pools, waterfalls and secret underwater passage-

ways, with historic theming based on ancient Rome and Egypt, and the Renaissance.

The building will be shaped like a drop of water, with a centrepiece consisting of a tall twisting waterslide set against an aquarium backdrop. There will also be a private relaxation area with a Roman bath theme, including Jacuzzi, mud baths and massage.

Aquantica is on track to open in 2013.

WATERPARK SET FOR LAUNCH

Denmark's first indoor waterpark, Lalandia Aquadome, will launch on 24 April as part of Legoland Billund Resort.

The 10,000sq m waterpark will be the largest in Scandinavia, with a lazy river, wave pool, water slides, water activities, children's areas,

a sauna, and a pool located beside an aquarium, allowing guests to swim with tropical fish. Restaurants will be located onsite, and a clear spherical roof will allow guests to sunbathe.

Suppliers include Neuman Pools, ProSlide, Neptune Benson and SCS Interactive.



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DONNY WEBER

VICE PRESIDENT
WEBER GROUP

Indoor waterparks can align existing hotels, but also zoos, museums, existing outdoor waterparks, public facilities, family entertainment centres and golf resorts. There are many opportunities to relate the brand to the rest of the facility, and to add dry play, special events, exhibitions, and day passes as elements.

Designers and developers need to programme new activities that increase length of stay and per capita spending. You can't accommodate different types of users and give them all a great experience unless you go big – pick your spot, your demographic and design, and build for that demographic, whether it's families, two to 12-year-olds, or teens.

Green building is important, and does have a return on investment for indoor waterparks. Many facilities are collecting laundry water for recycling and launching environmentally-sustainable initiatives, such as Great Wolf Lodge's Project Green Wolf. Pool water management systems are allowing greater recycling and treatment of water.

Smart ways to create theming without spending a bundle may include using layer two-and three-dimensional flats to



Weber Group used two and three-dimensional flats to create a three-dimensional look as part of the theming for Coco Key in New Jersey, US

YOU CAN'T ACCOMMODATE DIFFERENT TYPES OF USERS AND GIVE THEM ALL A GREAT EXPERIENCE UNLESS YOU GO BIG. PICK YOUR SPOT, DESIGN AND DEMOGRAPHIC AND BUILD FOR IT

create a total three-dimensional look. (We call this using three-dimensional plant-on.) This approach was used successfully at Coco Key in Mount Laurel, New Jersey.

Larger and quality signage impacts how guests experience a facility. Signage

is required, so making even regulatory and wayfinding signage an extension of the brand and theme makes smart sense. With three-dimensional, five-axis routers, any sign surface can be three-dimensionally rendered for a fairly low cost. ●

Donny Weber has over 30 years of design and build experience including work on indoor waterparks, amusement parks, museums and hotels. He has received awards from IAAPA, the AIA, and various trade publications, and is a frequent lecturer on branded and themed environments.



INDOOR WATERPARK NEWS

WAHOOO! TO OPEN IN BAHRAIN

A 15,000sq m indoor waterpark called Wahooo! is set to open in Bahrain this summer.

The park, to be located in the new Bahrain City Centre retail site, will be the largest temperature-controlled waterpark in the region, offering guaranteed 30°C temperatures year-round. Attractions at the park will include the Flowrider, one of the world's largest full size surfing machines, a 190m Masterblaster Rollercoaster, and a four-lane Matt Racer looping around the outer edge of the waterpark. Majid Al Futtaim Group is developing the project, with Aqua Leisure supplying rides.

NEW INDOOR WATERPARK FOR JAPAN

The first phase of a renovated 14,300sq m indoor waterpark at the Jyozankei Hotel in Saporio, Japan, has been completed.

The renovation, designed by architect Taku Higuchi, has transformed the once-under-

utilised water area with improved lighting, reduced water depths, and children's interactive feature from Empex Watertoys.

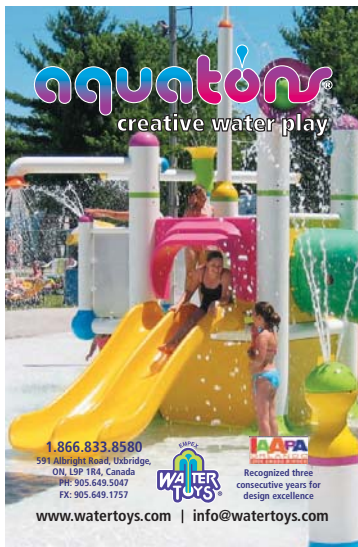
A second phase is scheduled to open within the next two years. ●



Bahrain's Wahooo! will be the largest temperature-controlled indoor waterpark in the region

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TOUCHING THE PAST

When *Touching the Past*, a £12m Welsh genealogy attraction, opens in Blaenau Gwent in 2010, it will draw visitors to the South Wales Valleys to discover their roots. Kath Hudson speaks to the team behind the development of the project

COUNCILLOR DES HILLMAN LEADER OF BLAENAU GWENT COUNCIL

How did the idea for *Touching the Past* come about?

Blaenau Gwent Council and the Welsh Assembly Government (WAG) are working together on The Works, a £350m (€384m, US\$510m) regeneration of the former steelworks site. As part of the plan we needed to find a new identity and a new purpose for the old General Offices. It's a unique historic, listed building, constructed almost 100 years ago in grand style as offices for the steelworks.

We realised through television programmes on genealogy such as the BBC's *Who do you think you are?* that we all have a tremendous interest in our past. At the same time, the WAG's deputy minister for regeneration, Leighton Andrews, wanted to focus on tourism and heritage for the whole of the Heads of the Valleys, and we had the opportunity to make a bid to bring the Gwent county record office here.

Why is this attraction needed?

In Blaenau Gwent we believe we have to rekindle our own deep-rooted sense of community. We're proud of our heritage and keen to rebuild our local economy – we decided it was vital we find an exciting new use for a majestic but unused building.

Who will it appeal to?

We're hoping this will bring people back to the South Wales Valleys. Hundreds of thousands of people moved away from here in the last century, looking for work when times were hard.

Now their families and relatives will have the chance to come back to their roots.

This project



The genealogy centre will be constructed as part of the regeneration of a former steelworks site

– along with the £5.5m (€6m, US\$8m) restoration of Bedwellty House and Park in Tredegar – will link with existing attractions like Big Pit at Blaenavon and Cyfarthfa Castle at Merthyr Tydfil.

What impact do you expect this to have on the area and the local community?

This project is going to have a tremendous impact for us in Blaenau Gwent. We see this heritage centre as an integral part of the huge regeneration underway across the site of the former steelworks. It's going to be at the very heart of The Works, and will link up our existing communities with the new one that, within a few years, will be springing to life where the steel mills once dominated.

How will it be funded?

Thanks to our partnership with WAG we have been able to access funding from the Heads of the Valley Programme for the development work. Cadw, the Welsh heritage body, is also giving grant aid for some of the restoration work, along with the council. The project costs will total £12.5m (€14m, US\$18m).

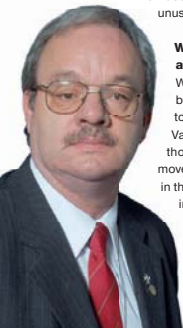
Is it expected that any further attractions will be developed as a result of this?

We're hoping to extend the Ebbw Valley Railway and build a new station right alongside the new heritage and genealogy centre. Redevelopment will create a vibrant area in the heart of Blaenau Gwent with opportunities for new businesses, employment, education, improved transport links, and new recreational facilities including a leisure centre and theatre, as well as the new genealogy centre.

The whole project is at the cutting edge of delivering the WAG's sustainable development agenda, with The Works being developed to an over-arching framework of social, economic and environmental objectives, including ambitious energy targets and environmental benefits.

What excites you most about the project?

It will bring people to the South Wales Valleys from all over the world. The combination of the General Offices heritage and a 21st-century records office with the latest interactive IT technology means this is a world class project.





TOUCHING THE PAST: PROJECT FACTS

Location: Blaenau Gwent, Wales, UK

Project cost: £12.5m (€14m, \$US18m)

Projected opening: 2010

Funding: Has been obtained from the Welsh Assembly Government's Heads of the Valley programme, as well as Blaenau Gwent Council and Welsh heritage body Cadw

Description: This genealogy-themed attraction will be located in the old General Offices located at The Works, a former steelworks site that is undergoing a £350m (€384m, US\$510m) regeneration. Touching the Past is the project's working title. The facilities will include interactive touchscreen tabletops allowing visitors to explore old records and photos, rooms offering immersive 360 projections, and a 5D cinema with 3D stereo projection.

BRUCE STEELE MANAGING DIRECTOR, HYPERSPACE LTD

What's your role in the project?

Design and IT consultant. My day-to-day role involves developing ideas, sourcing technology, creating content and liaising with partners and suppliers.

What excites you most about the project?

We're utilising the next generation of computer interfaces, doing away with the mouse and keyboard. It's anticipated that in about five years this will be reflected in domestic computers. The best known use of this type of interface at the moment is the iPhone.

What does the concept involve?

Lots of people are interested in genealogy, but online searches can't give much of a picture of what life was really like for our ancestors. We're tying together genealogy searches with a wealth of geotagged and time stamped data, using Microsoft



Surface Computing and Google Earth, which will enable users to explore old photographs, newspapers, recordings and records simply by pointing and touching a table top.

Having the expertise of the Gwent Records Office (GRO) on hand will add greatly to the experience. This will go way beyond

what you can achieve at home on the web. There will also be rooms offering immersive experiences with 360° projection, mapping the history of Wales and The Valleys, which were the epicentre of the industrial revolution.

What interactive exhibits will there be?

Plans include a 5D cinema, with 3D stereo projection, surround sound, hot and cold air, smells and leg ticklers. Technology such as RFID (radio tags which identify and track visitors), ultrasonic directional

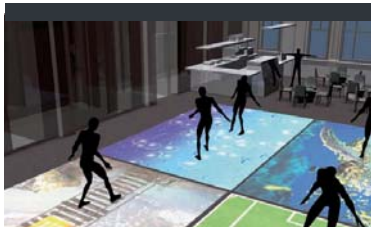
sound and interactive projection will be combined with surface computing to create a ubiquitous computing environment, where the technology remains largely invisible to the user.

What's the biggest challenge for the project?

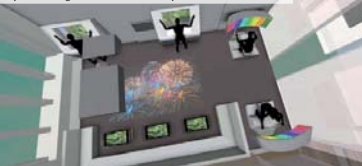
The technology is very new: Microsoft Surface was only officially launched in the UK in March, so a lot of bespoke software and content will be designed and created especially for the project. Our other major task is to source data, and for this we're working with a number of other ongoing projects in Wales.

Will the content change and develop over time?

Absolutely! The project is designed to be constantly evolving, adding digitalised data from other sources, including from the Library of Wales and the People's Collection. Strong links with education will also enable us to add data from schools all over Wales, and beyond.



The attraction will feature immersive technology such as projections and a 5D theatre, as well as touchscreen table tops allowing visitors to view old photos and documents



GARY TUSAN COUNTY ARCHIVIST

What's your role?

I'm in effect the client for about half of the new development, including all of the new extension.

What excites you most about it?

The synergies that exist with the other users of the building. I'm working with the genealogy centre team and the Ebbw Vale Steelworks Archive Trust, as well as running the record office and leading the projects that need to come together so we can move 5km of archives into the new building and be ready for service.

Will this be the first time the archives will be accessible to the public?

General Records Office (GRO) was set



up in 1938 and since then its collection has been accessible to the public. However, its current accommodation in Cwmbran is woefully inadequate. Many users stay for four hours or more and it's essential they are accommodated in suitable surroundings. In Ebbw Vale we'll provide them

with large comfortable rooms equipped with wireless networks, facilities for taking a break and an environment which will help them get the most of their visit.

We'll also have facilities for holding lectures and workshops. This is an important aspect of how the service will grow, enabling us to work more closely with local history groups, adult education classes, schools and teachers.

What interesting records are stored in the archives?

The constantly growing collection currently occupies around 5km of shelving, covering many aspects of the history of the Gwent area, from the 13th century to the present day. People are amazed at what they can find out in a record office.

The GRO holds records of numerous councils, courts, churches, chapels, schools, trade unions, mines, factories, steelworks, solicitors, estates, poor law unions, local societies, sports clubs, etc.

I like to highlight two parts of the collection which demonstrate its diversity. The first is records of the Rolls family, one of whom is famed for his partnership with Henry Royce, which date back to the 17th century. The other is that of the Tredegar Working Men's Medical Aid Society, famed as the model used by the local MP, Nye Bevan for the NHS.

RICHARD CROOK PROJECT DIRECTOR

What's your day-to-day role?

I'm in charge of the site on which the building is situated, and I'm responsible for all the building works, including the extension which will be built to house the archives.

Who are the architects?

Stride Treglown Davies, who have experience in listed buildings and attaching extensions to listed buildings. We have high environmental credentials, and they are good at developing low carbon buildings.

What challenges have there been so far?

It's a large building and it's listed, so certain constraints come with that. We want to have a low carbon footprint, but bring-



ing an old, listed building up to operational standard has presented some challenges, such as getting enough insulation into a 90-year-old roof space. We actually used some technology that NASA has used on the space shuttle to get sufficient levels of insulation into a small space.

We have had to find ways of insulating the 220-sash windows and are looking at how you can get a modern heating system into an old building that is suitable for a visitor attraction and for general use. But they're all issues the team has managed to find solutions for.

The building also brings opportunities, because it's superb inside and we're not having to make that many changes internally to allow it to come forward as this sort of facility. A number of the rooms

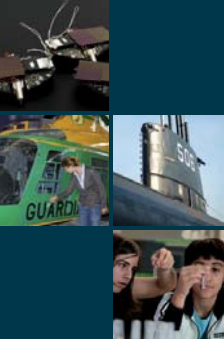
lend themselves perfectly for this sort of use, with many of the original features, like the fireplaces, dado rails and oak doors.

What stage is the project at now?

A planning application has been submitted and we've got tenders going out to start the refurbishment work. We've completed the first step of refurbishment by replacing the roof to make it watertight. Subject to getting planning consent and listed building consent, we'll be starting work later this year.

When will it be completed?

We hope to have 60 per cent of the building refurbished by 2010, which will allow us to have the genealogy centre open in time for the Eisteddfod, which is being hosted at the site. This is a Welsh cultural event which takes place every year, attracting hundreds of thousands of people for four or five days. ●



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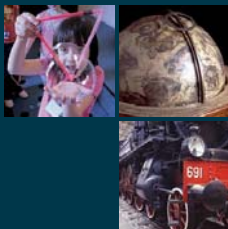
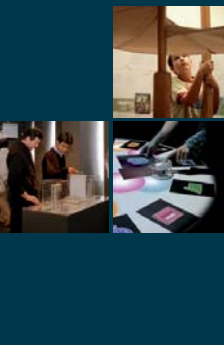
Three full days of inspiring sessions, workshops and discussions will await our participants. Alongside this, we offer a rich social programme, two days of pre-Conference activities and a lively Business Bistro.

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MASCOT MANIA

Rainbow Productions says increasing the dwell-time of park visitors - through photos with mascots, meeting a favourite TV character or watching a show - will help increase catering spend and retail sales per head of visitors. The company offers services to assist with this, including the creation of bespoke brand characters which can also be another focal point for a branded merchandise programme. For example, the Alton Towers Bear (pictured) appears at retail outlets within the park, hugging visitors, posing for photos and helping draw attention to the merchandise on sale. Another option is live shows featuring licensed costume characters or characters developed specifically for the client. Appearances by celebrity figures is a further alternative; Rainbow holds the exclusive licences for characters including Bart Simpson, Wallace & Gromit and Paddington Bear.

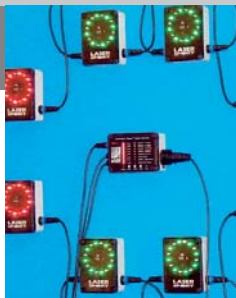
leisure-kit keywords: rainbow



JELLYBEAN COCKTAIL

Madame Tussauds London has opened the world's first ever jellybean cocktail bar for its star-spotting visitors. Situated in the attraction's interactive Hollywood party zone, Jellybean Bar offers guests the opportunity to make their own cocktail from between 50 different jellybean flavours - everything from Lemon Drop and Liquorice to Buttered Popcorn and Blueberry. A partnership with Jelly Belly® gourmet jellybeans, the bar space is designed 'in house' by Merlin Studios. Stocking close to one million beans, the area comes complete with classic stemmed cocktail glasses, recipe-suggesting 'waiters' and a bar, from which tourists are said to be able to sit and soak up the heady atmosphere of an A-list celebrity bash.

leisure-kit keywords: jelly belly



SMART LASER SHOOTING

Lasersport International Ltd have launched a new indoor shooting system to add to their range of shooting games. The Smart system will supersede the existing PARISS indoor shooting system and comes with more targets and functions, designed to make indoor shooting with the Lasersport system more exciting and challenging than ever.

Lasersport is now played in almost 70 countries and already SMART systems are in operation in Holland, France and Australia, as well as the UK.

The SMART control unit plugs into the Lasersport Scoreboard, allowing the operator to adjust the time that targets are 'alive' for and use any of the eight game functions to suit the skill level of the players, who shoot at the targets using the Lasersport shotguns.

The Lasersport shooting system is said to be a popular activity for corporate clients with many holiday and activity centres operating a Lasersport system.

leisure-kit keyword: lasersport



DRYING OFF IN A HAYSTACK

One of the problems when boarding water rides is the inevitable soaking that comes with it. Haystack Dryers have aimed to solve that problem by introducing their drying systems into theme parks and waterparks. Customers stand in front of a series of infra-red lamps whilst their body is dried by the warm air that then circulates around them. The dryers can be activated by a wide variety of systems including coin, token, RFID or button, allowing attractions to tailor the device to their facility. The dryers are currently in place at Thorpe Park in the UK, as well as at Legoland sites in the UK, Denmark and Germany.

leisure-kit keywords: haystack dryers



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NEW O2 EXPERIENCE

BSS Soundweb equipment has been supplied by UK distributor Sound Technology to the new British Music Experience (BME) at London's O2 Arena. The exhibition is using four Soundweb Originals (SW9088iis) deployed to run the Pre-Show and Exit Show features, while the central Core area is under the control of a fifth SW9088iis. Seven satellite rooms dedicated to different musical eras have audio delivered via fixed EQ presets stored in a standalone Soundweb Lite (SW3088).

leisure-kit keywords: **sound technology**

DOHA CLICKS WITH ISLAMIC ART MUSEUM

UK based Click Netherfield has been responsible for showcasing at the Museum of Islamic Art in Doha, Qatar.

Housing a vast collection of Islamic art, the museum is said to take the visitor on a journey through cultures and time, with over 800 exhibits spanning three continents and 1300 years.

These stories contained inside are wide ranging and imposing from room size silk tapestries and carpets to an exquisite Indian Jade pendant (1631) belonging to Shah Jahan, who created the Taj Mahal as a tribute to his wife.

Fragile manuscripts on display include one of the rarest and earliest versions of the Qu'ran to survive, possibly written within decades of the death of the Prophet Muhammad.

The project has been described as the largest project the firm has ever undertaken with some of the largest cases ever constructed: some stand-



ing up to nearly 5m (16ft) in height.

The Museum of Islamic Art is the latest in a series of ambitious projects that Click Netherfield has completed in the Middle East.

leisure-kit keywords: **click netherfield**



REFTECH'S TICKET REFERENCING SOFTWARE

UK-based RefTech will be appearing at the Attractions Expo at LIW this September to launch the latest version of its Ticket Reference software. Including significant advances in its synchronisation tool, the tool is intended to allow an end to separating inventory into different chunks for sale on site, online and through third parties, in addition to opening up opportunities for remote sales. The sales team need no longer be tied to an attraction's network and more importantly a temporary box office can be added without expensive infrastructure additions.

leisure-kit keyword: **reftech**

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For more information, or to contact any of these companies, log on to www.leisure-kit.net and type the company name under 'keyword search'

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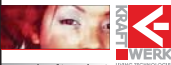
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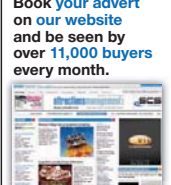
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J. Walt Adamczyk tours planetariums and theatres creating virtual worlds out of thin air for his Spontaneous Fantasia performances. He talks to Andrea Jezovit about his work



PROFILE

J. Walt Adamczyk has a background in CG animation for the likes of film, television and theme parks. He wanted to explore real time interactive techniques and share them with an audience, and a few years ago, as computers and theatre projectors became more affordable, he realised the timing was right. *Spontaneous Fantasia* was first performed in 2003; the performances see Adamczyk sketch designs onto a computer touchpad, which are projected onto a dome or screen.

Adamczyk is also a filmmaker, composer, graphic artist and award-winning pioneer of computer-generated puppetry.

ANOTHER DIMENSION

What is Spontaneous Fantasia?

I use virtual reality and interactive gaming techniques to draw abstract shapes and create artificial worlds, all as a real time live performance.

When I started I realised I was exploring what a lot of people dream of doing: to be able to draw and make the drawings come to life, or just wave one's hands and make worlds appear. It's exciting to me to be in the forefront of making that dream a reality.

How does the technical side work?

I write my own software to do graphics and the interactions. I've created techniques to do animation live, and interact with objects in 3D as I'm flying through the world or making the shapes dance around.

I've been working with Sky-Skan to get my system to work under their digital planetarium system. It was a bit of a challenge but I got it working and it looks great. I've used it in the Glendale Planetarium [in California], and I've taken it around the world to planetariums in Canada, Germany and the Netherlands.

Where do you get your inspiration?

I'm a big animation buff. I also like science fiction and I have a background in music; I often approach a piece in a musical way rather than a character-driven or a verbal way, so often a piece will be a sort of visual dance or piece of visual music.

What's the most unusual world you've created on stage?

One that I really liked a lot is the Gardens of Thuban. It's a world with its own rules and distinct reality. I start off with a completely blank, flat plane as though we're on the surface of a planet or a desert, and then I start creating these organic structures and growing the garden. And over time you get more of a sense of the structure, and the whole architecture of this garden builds as I'm drawing

it. I'm creating the world from within it; we're flying around underneath these structures, inside these structures as I'm drawing them. It's really something different than I've ever seen in any animated film.

Have you ever made a mistake on stage?

Sure! That's the risk of doing things live. I've made goof-ups, I've drawn the wrong things or selected the wrong tool to draw with, but also had computer glitches which have frozen my software or made the computers re-boot, and that's always the worst. But people are generally pretty generous to me and understand that it's sort of a high-wire act, getting all these computers to work together and pushing the limits of what I can do on them.

What's the audience reaction to your performance?

The audience reaction is really great. I'm really pleased that it appeals to audiences from five-year-olds through to seniors. A few times people have come up and said 'Oh, this is just like the science fiction story I'm writing, but you're already doing it!'

But there is also an aspect to it that is just for the sheer joy of the music and images together. One piece I end many shows with is *Colour Organ*. It's a kaleidoscopic celebration of music and colour based on a pretty fiery piece of organ music, but the images I do are reminiscent of stained glass. It's a lot of fun and includes everything with a bang.

What's your favourite part of your work?

In jobs that I've had in the past, people would want to know right away: 'are you a programmer or an artist?' And I was like, 'well, why can't I be both?' Now I get to do everything, and that's the most fun part: creating the software, the art, the music. There's a whole range of ideas and experiences that I want to continue to explore. ●

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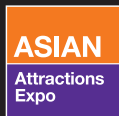
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