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LIGHTING THE WAY

The Smithsonian and Smart Monkeys collaborate on a bespoke lighting control system, with source code freely available to the industry





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ON THE COVER

The Great Hall at the National Portrait Gallery in Washington, D.C. features a lighting control system (LiCA) created by Smart Monkeys.

Credit: Frank Schulenburg, CC BY-SA 4.0 <https://creativecommons.org/licenses/by-sa/4.0>, via Wikimedia Commons

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More than words (and numbers): The 2024 TEA Global Experience Index™

Martin Palicki, Publisher

It's that time of year when journalists, industry professionals and park fans eagerly read the latest attractions attendance report. Produced by the Themed Entertainment Association (TEA) with presenting sponsor Storyland Studios, the TEA Global Experience Index (formerly the Theme Index and Museum Index) serves as both a mirror and a map – reflecting where the industry has been and helping to chart where it may be headed. The fact that the report remains freely available after so many years is part of what makes it powerful. It's a resource for operators, developers, suppliers and anyone who wants to understand how the attractions industry is evolving on a global scale.

Four years ago, I took over editing the TEA Global Experience Index from my friend and colleague Judith Rubin. Since then, I've had the privilege of helping tell the story behind the numbers. In addition to working alongside InPark's long-time partner TEA, this year I had the honor of collaborating with the research teams at Entertainment + Culture Advisors and The Park Database.

2024's report tells us a story of maturing markets, shifting strategies and recharged regions. China remains a dominant force in the industry, though in different ways. On the theme and water park front the country appears to be entering a maturity phase, with operators focusing on reinvestment rather than rapid expansion. On the museum front, however, it's full steam ahead, with China adding over 200 museums in 2024 alone.

In North America attendance at parks has slowed, but operators appear to be focusing more on driving per-cap revenue by appealing to more affluent customers rather than pursuing pure volume growth. With an uncertain market in the U.S. and anecdotal reports of a slow summer in 2025, it could be a smart move.

For the Europe, Middle East and Africa region, the most notable results came from the UAE. Abu Dhabi's steady investments in the attractions on Yas Island are paying off, with both Warner Bros. World and SeaWorld Yas Island making it to the regional top 20 list for the first time. The announcement earlier this year of the addition of a Disney-branded park to the mix will only further enhance the region's draw.

Around the world, museums had a good year in 2024. Being largely indoors in nature, the museum market was hit hard by pandemic restrictions, but many institutions are now back to more normal levels of operation and attendance, having implemented best practices like developing new exhibits, marketing to the masses, and reinvesting in facilities.

For decades, the report has chronicled the progression of the industry, expanding both geographically and in content. With a new name and guidance from TEA CEO Melissa Ruminot, the TEA Global Experience Index will continue to grow and evolve, exploring the expanding world of themed entertainment wherever that path leads. Until next year's report, be sure to download the 2024 edition and drop me a line if you have questions or comments about the Index, InPark Magazine or the industry at large.

Martin founded InPark Magazine in 2004, combining years of experience working in themed entertainment with a passion for writing and design.



Joe Kleiman, Senior Correspondent

Raised in San Diego on theme parks, zoos, and IMAX films, Joe Kleiman would expand his childhood loves into two decades as a projectionist and theater director within the giant screen industry. In addition to his work in commercial and museum operations, Joe has volunteered his time to animal husbandry at leading facilities in California and Texas and has played a leading management role for a number of performing arts companies. Joe served as news editor at InPark Magazine starting in 2011, becoming the publication's senior correspondent in 2021. His blog ThemedReality.com takes an unconventional look at the attractions industry. Follow on Instagram @JalekAvant

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Alterface unveils new Interactive Concept Design Service

Alterface, a global leader in interactive attractions, is launching a new Interactive Concept Design service to help operators, designers, and suppliers develop attractions where interactivity is built in from day one. The attractions marketplace is increasingly competitive, with guests demanding immersive storytelling, personalization, and re-playability. To meet these expectations, interactivity must be woven into attractions from the earliest stages of design — not added as a technical layer after the fact. Alterface's new service responds with a creative consultative approach that integrates interactivity seamlessly into the design process.

"We've seen a growing demand for early-stage support from clients who want to ensure their experiences attract and retain guests through dynamic interactive technology," says Stéphane Battaile, CEO at Alterface. "They're looking for concepts where gameplay and story seamlessly work together. With this service, we can share our expertise and creative tools to help shape attractions that are compelling, cohesive, and interactive by design."

Alterface is uniquely positioned to offer this service, drawing on over 25 years of experience in interactivity, a portfolio of award-winning attractions recognized worldwide, and a team with deep expertise in guest behavior, interactivity mechanics and gameplay storytelling.

A service built around interactivity

Alterface's Interactive Concept Design approach ensures that interactivity isn't an afterthought but at the core of the guest experience. Every aspect of a ride – from storytelling, media, and theming to devices, projections, special effects, lighting, and even ride systems – is examined to ensure they actively engage visitors and immerse them in the narrative.

The process also considers essential operational factors such as throughput, layout, budget, accessibility, and inclusivity, providing a clear vision for how interactivity fits seamlessly across all creative and technical layers. It helps operators and designers reduce risks during production, streamline integration, and deliver innovative, re-playable experiences that resonate with guests.

Core elements guiding the Interactive Concept Design service include:

- **Interactivity at the core:** Interactivity is not an add-on but the heart of the experience, expertly integrated into storytelling, gameplay, and technical infrastructure.



Alterface's Interactive Concept Design is a stand-alone service intended to be used at the very beginning of the creation of an attraction. *Photo courtesy of Alterface*

- **User experience comes first:** Technology is one of many tools used to craft great experiences, but it must always be implemented with the guest experience in mind.
- **Creativity as a driving force:** Alterface contributes original ideas, stories, and interactive narratives, helping clients shape unique experiences that stand out creatively, not just technically.
- **Collaboration and co-creation:** Alterface partners with designers to enhance their creative ideas without competing with their expertise.
- **Tailored Solutions:** Each project is customized to fit the client's needs, target audience, and operational capabilities.

Benefits for all

Interactive Concept Design is for anyone interested in developing an interactive and engaging attraction. Operators will benefit from reduced risks and smoother production workflows, resulting in an engaging and repeatable experience that fits within their budget. Master planners receive early clarity on how interactivity integrates into a park or attraction. Design-build vendors benefit from creative and technical guidance from an industry leader on the best ways to integrate interactive elements into storytelling and theming.

"Our Interactive Concept Design service enables everyone to gain an early-stage vision of the ride concept without requiring a full commitment to production, helping the team confidently move forward in their creative process," says Battaille. "The result is a cohesive integration of interactivity into the attraction, improving the overall project quality and creating a unique, engaging experience for visitors."

Alterface will showcase its Interactive Concept Design service at IAAPA Expo in Orlando (18-21 November 2025). Visitors can schedule a concept consultation by contacting sales@alterface.com or experience real-world results firsthand at Alterface's booth, #862.

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Siren's Curse at Cedar Point. *All photos courtesy Vekoma Rides*

Behind the Tilt

Vekoma's Tilt Coaster delivers iconic thrills and engineered suspense

by Carin Davits, Vekoma

In the competitive world of attraction innovation, the Tilt Coaster has emerged as a symbol of engineering ingenuity and carefully crafted thrills. Developed by Vekoma, this ride concept features a dramatic tilt mechanism in which the train pauses on a horizontal segment of track that then tilts vertically before releasing riders into a high-speed coaster course. The moment of suspended anticipation is not only a mechanical achievement but also a deliberate storytelling beat, designed to heighten psychological tension before the plunge.

Tilt Coaster stands out for its theatricality. The tilting section creates the striking illusion of a broken track, a spectacle that draws attention as much from guests on the ground as from those onboard. The engineered pause builds suspense in a way that a conventional drop cannot, turning a simple descent into a moment of genuine drama. Because the system can be adapted to a compact footprint and layered with themed design, the ride type has become a flexible option for parks looking to add signature experiences without requiring extensive land use.

Siren's Curse - Cedar Point, USA

Opened in June 2025, Siren's Curse quickly earned a reputation as a standout attraction at Cedar Point. Its tilt element delivers a sustained moment of tension before riders are launched into a layout packed with airtime and inversions. The experience is heightened through onboard audio and lighting effects that emphasize the story of a haunted sea legend, transforming a mechanical maneuver into a fully integrated narrative sequence.

With 13 airtime elements, two barrel rolls and a triple-down drop, the coaster blends intensity with precision engineering. It's strong operational performance and high uptime have been notable – a reflection of the maturity and reliability of Vekoma's tilt technology.

Circuit Breaker - COTALAND, Texas

Though COTALAND will debut in 2026, Circuit Breaker soft opened in October 2025 for the F1 race, introducing the tilt coaster experience to Texas. Rising to 131 feet, the layout



Concept art for Iron Rattler, opening soon at Six Flags Qiddiya City



Siren's Curse at Cedar Point

includes four inversions, a barrel roll downdrop, a tunnel and camelback elements. Its sleek, high-speed profile was designed to complement the motorsports theme of COTALAND, positioning the coaster as a signature attraction for the park and the region.

The ride's integration with its surrounding environment underscores how tilt coasters can be tailored to reflect a park's broader identity rather than existing as standalone novelties.

Iron Rattler – Six Flags Qiddiya City, Saudi Arabia

Iron Rattler, soon to open in Six Flags Qiddiya City, will set a new record as the world's tallest tilt coaster at 197 feet, reaching speeds of 73 mph. The layout includes five inversions, a double zero-G roll and twelve airtime moments across more than 4,000 feet of track.

The coaster aligns with Saudi Arabia's Vision 2030 initiative, which emphasizes large-scale entertainment investments as part of a national economic strategy. In this context, Iron Rattler functions as both a ride and a statement, showcasing how ride technology can support ambitious placemaking goals.

Innovation meets iconicity

The latest generation of tilt coasters demonstrates how engineering innovation can serve storytelling, visual spectacle and operational goals simultaneously. By combining a distinctive thrill moment with flexible design and proven reliability, these attractions have established themselves as compelling centerpieces for parks around the world.

For operators seeking to make a strong visual and experiential impression, the Tilt Coaster offers more than a new ride – it provides a memorable signature moment that can help define a park's identity in a competitive global market. •



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Story you can experience

Morgan Fix Creative brings creativity and precision to themed entertainment projects

interview by Martin Palicki

Morgan Fix has spent more than 15 years turning creative designs into places people can touch, see, and experience. Based in Europe and now expanding into North America, his studio, Morgan Fix Creative, bridges artistry and engineering to make ambitious stories buildable and efficient.

Fix's team acts as an "internal studio" for clients – designing, coordinating, and delivering projects from concept through opening. Fix's core team includes a vetted network of junior freelancers and senior independents across engineering, animation, fabrication, scenic and props, lighting, SFX, AV, and show control. Their portfolio includes collaborations with Puy du Fou, Disneyland Paris, La Compagnie des Alpes, and regional parks such as Nigloland, Festyland, and Gröna Lund.

We asked Fix to discuss his roots in themed entertainment, his philosophy of "design-to-budget," and the evolving future of immersive storytelling.

How did you get involved in the industry?

I grew up next to Europa-Park, and those regular visits made it clear I belonged in this industry. With no formal path into themed entertainment, I built my own – starting in architecture, then moving through quantity surveying, interior design, and urban planning. Over time I focused more on attractions, developing a specialty in making creative ideas buildable.



Morgan Fix

What led you to start your own business?

After working abroad, I returned to Europe to start a family. I wanted to keep creating immersive experiences but also stay rooted at home, so I launched my own studio. My career allowed me to oversee every stage of a project from concept to fabrication, installation and opening. It also suited my entrepreneurial side; as a teenager I built a Halloween event from scratch that grew into a regional success. Starting my own company was the natural next step.

Above: Morgan Fix led the masterplanning and design development for a seasonal event for Riyadh Season, collaborating with major IPs such as Netflix and Warner Bros. to create unforgettable experiences for visitors. *Courtesy of: Riyadh Imagination Park (Riyadh Season). Photo ©2023 Alamiya Media*



Designing the Valkyries' realm at Festyland

Morgan Fix Creative's recent work for Festyland, a family park in Normandy, France, captures the essence of the studio's "internal creative and delivery" philosophy. The project, developed in collaboration with Vekoma, centers on a new family coaster inspired by a historic female figure from Norse mythology.

While Vekoma provided the coaster layout, Morgan Fix Creative engineered everything around it, building the world that guests move through. This included designing the building for optimal guest flow and safety, planning queue and station capacities, coordinating technical systems, and shaping the full story environment within the constraints of the track footprint and French regulatory codes.

According to Fix, his team treated the project as a fully integrated guest experience rather than a collection of scenic elements. Every decision was guided by narrative and operational efficiency, ensuring that story, structure, and throughput worked together seamlessly. The result invites guests to become "Guardians of Memories," chosen to revive a forgotten realm of the Valkyries.

The Festyland project exemplifies the studio's larger approach: acting as the park's in-house creative department to deliver a narrative-driven experience that's engaging for guests, financially responsible and operationally sound.

Where are you based and what verticals do you work in?

Our headquarters is near Strasbourg, France, but 70 percent of our work is international. I'm proud to announce an important milestone in the recent establishment of a U.S. entity in Orlando, Florida, to better serve the North American market. We also maintain strong ties in the Middle East, where we've delivered numerous projects. Our agile model allows us to form local teams quickly and operate efficiently anywhere in the world.

In addition to theme parks and attractions, we are working in adjacent sectors like retail, hospitality, walkthrough experiences, cultural venues and immersive brand experiences, such as Netflix Experiences for Riyadh Season and mall pop-ups featuring Sesame Street, Dora the Explorer, The Smurfs, Kung Fu Panda, Madagascar, Trolls, and PAW Patrol.

What does Morgan Fix Creative offer the industry?

We offer a complete, end-to-end creative and delivery solution for leisure destinations and attractions – what we call a three-step process of Conception, Smart Procurement, and Delivery.

We act as an internal studio for our clients. That means we take a concept and engineer it into fully executable build packages that operational and procurement teams can immediately use. Our work goes beyond design – we integrate creative, technical, and fabrication thinking from the start so that every decision aligns with how the project will actually be built.

Our Smart Procurement model allows us to divide projects into targeted tender lots and manage them through hands-on art direction on site. This keeps creative fidelity intact and avoids costly scope creep that can happen when generalist contractors are left to interpret specialized themed work. Because we manage the process like an in-house team, we've reduced direct and indirect costs by up to 60 percent on recent projects, which can then be reinvested into higher-quality scenic, lighting, and guest-facing elements.

Our services are flexible, from concept-only design to full turnkey delivery, but every version shares the same goal: to blend artistry and efficiency so that ideas become immersive experiences guests can truly step into.

What's your design philosophy?

Our philosophy is "story you can touch." We focus on authenticity in materials, ingenuity over spending, and efficiency through modeling. Everything is coordinated in 3D from the start so creative, engineering, and procurement teams work from one source. The goal is to make inspiring ideas executable and financially sustainable.

How does being in Europe shape your philosophy?

For starters, my Alsatian roots (a border region shaped by both French and German histories) fuels my creativity and also shaped my discipline and rigor. Additionally, my experiences at theme parks around the EMEA region have provided the foundation of our design philosophy and operational discipline, instilling three core principles in Morgan Fix Creative:

1. *Authenticity and human scale:* European parks often excel at honoring human scale, heritage and proportion. The deep respect for craft ensures the final product feels timeless, not synthetic.



Morgan Fix leads a walk through at a job site, looking at the details.

2. *Respect for context and constraints:* I have learned to treat context and constraints as creative assets, not burdens. For example, if a fire door must be visible, we integrate it beautifully rather than hiding it poorly. We always seek out solutions that elevate design while maintaining functionality.

3. *Sustainable and efficient craftsmanship:* Europe has been a leader in promoting sustainability, which often means collaborating with local artisans and studios whenever possible to reduce both cost and carbon footprint. In turn, this offers long-term value and operational savings for the park.

How do you approach partnerships?

We build agile, project-specific teams instead of large, fixed alliances. Each collaborator is chosen for their relevance to the brief. This approach cuts overhead, improves transparency, and ensures that creative decisions stay close to the work. Whether it's lighting, show control, or scenic fabrication, every partner directly serves the project's needs.

Where do you think themed entertainment is headed?

The desire for immersive environments is spreading beyond parks into retail, hospitality, and museums. The best of these experiences blend play, learning, and belonging into a single continuum.

At the same time, the industry is maturing, which tends to favor authenticity, promote operational integrity, and incentivize smarter use of technology. We'll see more original IPs, modular scenic design, and systems built for longevity rather than short-term spectacle.

What sets Morgan Fix Creative apart?

We combine creative leadership with pragmatism and financial accountability. By grounding design in accurate site data and operational insight, we prevent costly surprises and deliver reliable, high-quality results. Our understanding of real-world operations allows us to secure a realistic vision early, align it with procurement, and stay through opening to ensure the design is well executed. •





LED takes flight

Air Cruise The Ride, Brogent's 8K LED dome, redefines the flying theater experience

interview by Becci Knowles

A new chapter in immersive ride technology has opened at Huis Ten Bosch Theme Park in Nagasaki. On September 12, the park debuted Air Cruise The Ride, a state-of-the-art flying theater designed and delivered by Brogent. The attraction marks a major step forward for Japan's themed entertainment market and showcases the company's ongoing innovation in motion simulation and visual technology.

Headquartered in Kaohsiung, Taiwan, Brogent is recognized worldwide for developing cutting-edge simulation systems that blend creativity and engineering. The company's expertise spans software and hardware R&D, manufacturing, and full turnkey attraction delivery—from concept to installation. Its team includes experienced designers, engineers, and filmmakers who share a goal of transforming imaginative ideas into physical experiences. Brogent's work can be seen in high-profile destinations around the world, including its well-known FlyOver attractions in Canada and the United States. The company continues to push the boundaries of immersive media and ride design, adapting its proprietary simulation systems to a wide range of markets and creative concepts.

Air Cruise The Ride is located in Huis Ten Bosch's Attraction Town area and features Japan's first 8K LED dome screen, offering guests a seamless, high-definition journey through the skies. InPark contributor Becci Knowles spoke with Brogent's Director of Sales & Marketing, Stefan Rothaug, about this technological milestone, the shift from projection to LED, and what it means for the future of immersive entertainment.



Stefan Rothaug, Director of Sales & Marketing at Brogent, discusses the technological milestone of the new flying theater at Huis Ten Bosch. The project is the culmination of years of R&D in LED integration, setting a new benchmark for flying theater technology.

Air Cruise The Ride is the first flying theater with an 8K LED dome screen in Japan. Can you walk us through this installation?

Air Cruise The Ride is a true milestone as it marks the first time an 8K LED dome has been used as the main screen in a flying theater in Japan. Traditionally, these attractions have relied on projection systems, which have certain limitations in brightness, contrast, and image alignment. With the move to an 8K LED dome, we can now deliver visuals

Above: Guests are drawn into the story as the ride's movements synchronize seamlessly with the visuals. The precise pixel-level control of the LED dome ensures perfect alignment with the curved geometry, enhancing motion and depth. *All photos courtesy of Brogent*

with exceptional clarity, vibrant colors, and deep contrast, creating a more lifelike and immersive experience than ever before.

For Brogent, this project is the culmination of years of R&D in LED integration. We developed patented solutions for video compression and dome structure design that enable seamless image delivery across a curved LED surface. This achievement is not only a technological breakthrough but also demonstrates that LED can serve as a viable and scalable solution for large-scale attractions.

For the industry, this installation sets a new benchmark. It shows how flying theater technology is continually evolving to deliver higher-quality visuals, lower maintenance, and greater long-term sustainability. It also opens the door to new creative possibilities, empowering parks to design more dynamic, visually stunning, and emotionally engaging experiences.

How did you work with the park to integrate Air Cruise The Ride into Huis Ten Bosch's creative vision?

From the beginning, Huis Ten Bosch made it clear that their goal was not simply to install new technology, but to create an experience that seamlessly blended with the park's unique identity: its European townscape, seasonal beauty, and reputation for spectacular entertainment. We worked hand in hand with their team to ensure that Air Cruise The Ride would feel like a natural extension of this vision. By combining our cutting-edge LED dome and flying theater technology with their focus on storytelling, we were able to deliver an attraction that enhances the park's charm while introducing an entirely new dimension of thrill and immersion.

What are the main advantages of moving to LED for flying theaters?

Switching from projection to LED brings dramatic improvements in image quality and guest experience. LED provides higher brightness, superior contrast, and richer color saturation, making visuals vivid and lifelike. Guests will immediately notice sharper details and deeper blacks across the dome.



The flying theater's motion platform positions guests in front of the massive 8K LED dome screen. The move to LED technology provides higher brightness and superior contrast, making the visuals vivid and lifelike for audiences.

Because each pixel can be precisely controlled, content aligns perfectly with the dome's curved geometry. This precision enhances motion and depth, synchronizing seamlessly with the ride's movements to draw audiences into the story. The result is a realistic, dynamic, and unforgettable experience.

What were the biggest technical challenges your team faced, and how did you overcome them?

The biggest challenge was integrating LED dome control technology into the flying theater system. Unlike standard LED applications, this required perfect synchronization between hardware, software, and content to ensure a smooth, immersive experience.

We achieved this through close collaboration with our partners and by leveraging our patented video compression technology. Traditional fisheye lens systems require a great amount of bandwidth and resources, but our system intelligently delivers only necessary data, improving efficiency and reducing costs.

On the hardware side, our patented dome structure ensures seamless panel alignment without visible joins. These combined innovations – compression algorithms, structural design, and system integration – allowed us to overcome the limits of conventional LED domes. The Huis Ten Bosch project represents the first large-scale application of our integrated LED dome in a flying theater environment.

What do operators need to consider before adopting LED in a dome?

Operators should understand both the initial investment and the long-term advantages. While LED requires higher upfront costs, it offers durability, lower maintenance, and a longer lifespan than projector bulbs – reducing operational costs and downtime. LED also delivers consistently superior



The interior of the Air Cruise The Ride flying theater shows the expansive 8K LED dome screen, which offers guests exceptional clarity, vibrant colors, and deep contrast for a more lifelike experience than traditional projection systems.

visuals that can enhance guest satisfaction, potentially driving repeat visitation. With precise pixel-level control, operators can also easily adapt visuals for different shows without major hardware changes.

Can you give more details about the sustainability and maintenance benefits?

Projectors require frequent lamp or laser replacements and recalibration, increasing cost, downtime, and waste. LEDs, by contrast, are more durable and energy-efficient, maintaining brightness and color over a longer lifespan. They also eliminate issues like edge blending or misalignment, reducing technical intervention. LEDs consume less energy, making them a cost-effective and environmentally responsible solution.

Do you see LED technology becoming the new standard for flying theaters worldwide, or is it best suited to certain projects?

Air Cruise The Ride showcases LED's potential for unmatched visual quality and immersion. While not every project requires LED, it's ideal for large-scale, high-impact attractions where brightness and clarity are critical.

We believe LED will increasingly become a preferred solution as costs decrease and technology advances. Its pixel-level control and seamless integration give designers unprecedented creative freedom. While projection will still have its place, LED is rapidly becoming the standard for projects focused on immersive storytelling.

What's next for Brogent in immersive media and ride technology?

Looking ahead, we're expanding LED applications into more media-based attractions, combining technology with original IPs such as *Attack on Titan*, *Ghost Chaser*, and *Godzilla*. This strategy aligns with the global rise of anime and the growing demand for IP-driven experiences, offering operators world-class, content-rich attractions.

We're also introducing new ride formats for a variety of applications. The v-Ride Explorer PLUS features a 360° rotating platform and panoramic screen for high-intensity scenarios, while the o-Ride E is a compact flying theater designed for smaller venues, offering flexibility and fast installation. •



Becci Knowles is a U.K.-based writer and editor with 20 years' experience in trade and consumer press. Becci's first taste of the themed attractions industry came in 2015 with a visit to Gothenberg, Sweden, for IAAPA to support the Park World and GlobalAmusements & Play team. She went on to edit Park World from 2018-2022 before deciding to go freelance, making the move into travel and lifestyle before returning to the visitor attractions industry for InPark.



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Mappability, granularity and the power of bespoke

Smart Monkeys and the Smithsonian re-invent lighting control

LiCA quickly grew into something that can be generalized to the wider museum community, and the source code is available on request.

by Judith Rubin

"When multiple systems become impractical to maintain, LiCA can step in as the big overseer," said Alexander Cooper, Head of Exhibit Technology for the National Portrait Gallery in Washington, D.C.

Cooper led the internal team that set out to design a new, comprehensive system to unify architectural lighting control across diverse venues. What emerged was LiCA – the Smithsonian's Lighting Control Application – a bespoke software system, co-developed in partnership with the Smithsonian Institution by Smart Monkeys Inc. (SMI). Its rollout on the Smithsonian museum campus has begun, and this breakthrough platform has the potential to transform control for museums and other venues throughout the industry.

The LiCA system was first delivered in 2023 to the Donald W. Reynolds Center for American Art and Portraiture and then in 2024 to the Renwick Gallery, with plans for the National Postal Museum next. Over the months following the initial implementation, SMI and Smithsonian staff conducted



The Smithsonian Institution's Donald W. Reynolds Center for American Art and Portraiture was the first to receive the LiCA system.
Credit: Difference engine, CC BY-SA 4.0 <https://creativecommons.org/licenses/by-sa/4.0>, via Wikimedia Commons



Lighting systems in the National Portrait Gallery and Smithsonian American Art Museum have to be sensitive to the effect of lighting on priceless pieces of art. LiCA allows exhibit directors to implement brightness limits to protect art. *Credit: Russ, CC BY 2.0 <https://creativecommons.org/licenses/by/2.0>, via Wikimedia Commons*

extensive testing. About 20 internal testers across different staff roles were given access, ensuring the system worked equally well for technicians, curators, and administrative operators. Feedback loops helped refine features in real time. That iterative process has become central to LiCA's identity.

"We knew from the start this was going to evolve," said Cooper. "What we didn't expect was how quickly it would grow into something that could be generalized to the wider museum community."

The LiCA source code is available upon request, and that availability promises to influence a much wider community of operators and integrators. LiCA's granularity, user-first interface, and IT-friendly architecture make it adaptable not only for museums but also with potential application for theme parks, science centers, heritage sites, and beyond.

A museum's challenge

As lighting and media fixtures have rapidly grown ever more intelligent and complex, finding the right infrastructure to control them in unique and specialized environments has been a challenge. Smithsonian museums occupy some of the nation's most iconic buildings. Some are very new and some quite old, and all are held to high standards in terms of educational mission, guest experience, operational efficiency, presentation and conservation.

The spark for creating LiCA began during a 2017 renovation at The Reynolds Center. This 1836 structure, which originally housed the US Patent Office, is home to the National Portrait Gallery and the Smithsonian American Art Museum. The building has walls several feet thick, making it a poor candidate for retrofit wiring. As museum staff sought to implement wireless intelligent fixtures, they faced the challenge of how to manage nearly 15,000 endpoints of varying protocols, from cutting-edge Bluetooth nodes to more traditional DMX-controlled devices.

"We had to go far into the bleeding edge of wireless lighting to get the type of granular control that we needed, and there weren't really any control systems on the market at that time that could accommodate the quantity of these intelligent fixtures and the broad range we use," said Cooper. "So we embarked on a process to develop our own control solution."

Cooper has been with the Smithsonian for nearly 25 years. His background combines lighting design with daily museum operations. "We needed and wanted a single system with one steering wheel," he said. "Our group was steeped in all the different control protocols and types, and familiar with the architectural concepts that underpin control systems. And we knew that this was a system that would serve many different types of users. We just had to dream up a way that we could, under the hood, do all of these very complex things and then focus on the look and feel of what it's like in the cockpit."

The stakes went beyond exhibition aesthetics. Smithsonian venues double as rental halls for events, with rapid turnovers and varying requirements. Conservation teams needed precise control over light exposure for sensitive artifacts. Operators wanted simple, reliable access to set states without deep technical knowledge. The Smithsonian's own IT department required enterprise-level security and compliance. No single commercial solution could check all those boxes. It became clear that a bespoke system was needed.



Alexander Cooper,
Head of Exhibit Technology,
National Portrait Gallery



Mitchell Schuh,
Chief Technology Officer,
Smart Monkeys, Inc.



David Rouchet, Director
of Product Development,
Smart Monkeys, Inc.



Zach Strauss,
Platform Specialist,
Smart Monkeys, Inc.



Ryan Moore,
Front End Developer,
Smart Monkeys, Inc.



Zach Thomson
UX/UI,
Smart Monkeys, Inc.





An intuitive user interface allows LiCA users granular control over lighting systems throughout the museum campus. *Credit: Smithsonian Institution*

Internal + external team

Cooper and his colleagues assembled a detailed proposal, outlining both architectural and operational requirements. The request went out as a public request for proposal (RFP). In 2020, Smart Monkeys Inc. was awarded the contract.

SMI was an ideal match, as a provider that has brought significant innovation in control systems design to the worldwide attractions industry, with a portfolio including many projects of large scope. Founded in 2008, the company is probably best known for ISAAC, a platform used widely in theme parks, museums, airports and a range of other venues to centralize media and show control. The LiCA project represented a new kind of partnership for them, and they welcomed the opportunity to apply their expertise to a single client's specific needs.

"It was one of the first times we were asked to develop a full custom software solution for a single client," said Zach Strauss, Platform Specialist at SMI. Some of the company's high-profile projects include Sphere, Warner Bros. World Abu Dhabi, The Shed and the Academy Museum of Motion Pictures. SMI control systems run complex media environments at a growing number of airports including LAX, Newark and Houston. "We were able to take lessons from ISAAC and show control, but apply them in a completely new, tailored way, specific to the Smithsonian's needs," said Strauss.

"A museum is a lot like a rental hall in a convention center," said Cooper. "It has very specific needs in the artifact spaces, but much of it is rented out for traveling exhibits, special events, auditoriums, all kinds of different spaces. The more complex it gets, the simpler the interface would need to be. We wanted LiCA to be like this Swiss Army chainsaw of protocols that could just talk to everything, but be so easy that somebody who is a program manager or special events person can use it. We didn't want it to be tied to wall stations. We wanted it to be easy to implement and available to all Smithsonian users, so we thought about cloud-based hosting. And knowing that other Smithsonian buildings faced the same problems, we were thinking campus wide."

The Smithsonian's LiCA Project Team represents a cross-section of internal expertise: Alexander Cooper (Head of Exhibit Technology,

National Portrait Gallery), Scott Rosenfeld (Lighting Designer Smithsonian American Art Museum), Kyle Andreas (Lighting Projects Manager) and Grant Lazer (Exhibit IT Programming Specialist).

The SMI external team for LiCA includes Mitchell Schuh (Chief Technology Officer), Zach Strauss (Platform Specialist), David Rouchet (Director of Product Development), Ryan Moore (Front End Developer) and Zach Thomson (UX/UI).

Granularity and flexibility

At the heart of LiCA is the concept of granularity – the ability to zoom from macro to micro control within the same interface.

"Say you have 120,000 square feet of exhibit space, and you want to look at the entire floor as a whole, to have everything go to the opening state," said Cooper. "A LiCA user should be able to do that very simply. If a more advanced user wants to get very granular and zoom in, it's similar to a map interface that lets you zoom in all the way down to the level of a tree or a pebble. You can do that – for instance, if you want a single fixture or a single display device to change its intensity or its color. Many control systems require you to commit to one level of granularity. We wanted a system that wouldn't require that."

From a technical standpoint, LiCA's strength is its ability to talk to multiple protocols – Bluetooth Low Energy, DMX, Modbus, and others – while presenting the user with a unified, map-based interface. Strauss said: "In most control systems, you're dealing with device IDs and command lines. With LiCA, you're looking at a floorplan. You click on a gallery, adjust a slider, and the system handles the rest."

A Smithsonian training video illustrates this in action. In one example, a staff member overrides a gallery setting directly on the map. Within seconds, the room shifts, and the system logs the change. Later, it resets automatically to baseline. This kind of usability is what makes LiCA adaptable to diverse environments.

Crucially, LiCA is not intended to replace every other system. "You don't have to throw the baby out with the bathwater," Cooper said. "If an existing venue doesn't need it, we don't impose it. But when multiple systems become impractical to maintain, LiCA can step in as the big overseer."

Bridging IT and creative

One of LiCA's significant characteristics is the ability to bridge the worlds of enterprise IT and creative operations. The system runs virtually from the Smithsonian's data center, hosted on redundant servers in full compliance with security standards. Updates and patches are handled like any other IT-managed application, avoiding the pitfalls of proprietary hardware boxes that fall out of date. For operators, this translates into reliability, and for IT staff, it means integration into familiar workflows.

LiCA ties directly into Smithsonian's central authentication system, so user permissions are managed the same way as email accounts or network logins. This ensures security while



Lighting throughout galleries can be adjusted easily with the LiCA system developed by Smart Monkeys. *Credit: Smithsonian Institution*



Smart Monkeys helped develop a camera capture system along the length of the wave at Kelly Slater Surf Ranch. *Photo credit: Surf Ranch and Todd Glaser*

Capturing the wave: custom software at Kelly Slater's Surf Ranch

At first glance, a surf company in California might seem worlds away from the Smithsonian. Yet the two projects share a crucial thread: the need for custom software to make technology an integrated part of the experience.

Kelly Slater's Surf Ranch is a unique, branded surf hospitality venue located in California's Central Valley. Each visit is curated: small groups of surfers are scheduled throughout the day, with every ride tracked, recorded, and analyzed. The wave is powered by a patented hydrofoil system that generates perfectly consistent swells, dialed in based on the guests' skill levels. Between waves, guests relax and review their footage on high-definition displays. The entire site blends the precision of a high-performance sports facility with the relaxed atmosphere of a luxury retreat.

In partnership with Electrosonic, Smart Monkeys, Inc. (SMI) developed a system to control cameras along the 700-meter wave basin and deliver a seamless, digital video capture. Off-the-shelf solutions weren't practical – the basin was too long, the wave too dynamic. Instead, SMI created a map-based interface that tells cameras where to focus as the wave moves.

Each high-speed camera ties into a synchronized control backbone. Operators can draw zones on a map, and the cameras automatically track surfers as they ride. From the control room, they can view a live map of the basin and can override any part of the sequence while the system continues recording from all angles. They can fine-tune the system easily and modify it for special situations.

The system does more than capture video. It tags surfers, organizes clips, and allows coaches to annotate frames with feedback. Guests leave not only with memories but with digital records of their progress that they can review and share. Coaches can compare sessions over time, turning a day at the Surf Ranch into a structured learning experience.

As LiCA does for the Smithsonian, the Surf Ranch system hides its technical complexity behind an intuitive interface that maximizes the engagement of operators and guests alike. "We take the technology and put a layer over it that operators can understand," explained Mitch Schuh. "They don't need to know camera zoom factors. They just see the map and tell it what they want."

For SMI's Stephan Villet, the connection is clear. "Off-the-shelf products can't always keep up with unique challenges. Bespoke is what makes the impossible practical."

reducing friction between departments. "It's highly fault-tolerant," Cooper explained. "We can lose entire servers and the system keeps running." There is also the purity of only dealing with the user interface and not the physical platform. "If you have enterprise hardware, you can virtualize LiCA and never really see it or touch it," said Cooper. "It's all in the data center."

That doesn't rule out smaller and more basic configurations, as Cooper pointed out. "Clients who don't have that data center infrastructure can implement LiCA on a PC. In any case, it's very lightweight. You're not required to buy some box that you can never open or touch or patch as so many other control systems require."

How LiCA is being used now

LiCA was designed not just for experts but for everyone who needs to touch the system. That philosophy is most evident in its interface. Users interact with a map of their building, selecting zones or galleries and applying changes without worrying about underlying protocols.

Permissions are tailored to job roles. A lighting designer may have access to advanced fixture programming, while a janitorial staff member can simply set a gallery to "work lights" for two hours. When their shift ends, the system resets automatically.

This user-first ethos extends to design. Cooper described how LiCA exchanges data with CAD software, eliminating the need to duplicate layouts – and how the simple interface streamlines both access and process. "It lets us design in real space. I can walk into a room with a tablet, make adjustments, and see the results instantly. I can sit down from anywhere in the world, log in, see what is happening in my museum, look at live feeds from video, and make changes to museum states. I can look at detailed data that tells me what the building has been doing and how people are moving around it. It's all right there in front of me."

For conservation staff, LiCA offers a vital tool. By connecting sensor data to lighting attributes, the system can adapt dynamically, lowering light levels when galleries are empty, adjusting for sunlight during the day,

and ultimately extending artifact life spans. As implemented at the Smithsonian, "Artifacts in those rooms now experience about 25 percent less exposure than before," Cooper said.

Also important is the ability to change things on the fly. Whether adapting to a visiting exhibition, a rental event, or an unexpected technical hiccup, operators can make immediate changes without disruption.

A tool for the industry

LiCA was developed with the intent to share its source code openly – to allow museums, integrators, and cultural venues worldwide to adopt and adapt it to their own needs.

"The idea is not to give everyone a finished turnkey system," Cooper said. "It's more like a blueprint. You'll still need an integrator to implement it properly. But it means the industry can build on a shared foundation. I think anyone in the museum world will find LiCA interesting because it is built with museum users in mind. More broadly, anybody who faces a challenge of integrating dissimilar things in an architectural space – anything from a theater to a hotel – would find it an interesting management tool. It's an overseer of other control systems that simplifies user access; it puts the user first and adds simplicity to the control topology."

For smaller institutions, it could mean access to enterprise-level control without prohibitive costs. For integrators, it can be a basis for creating tailored solutions. For the attractions sector as a whole, it is a valuable contribution to the technology ecosystem.

Traveling exhibitions could leverage LiCA's cloud-based flexibility. Heritage sites and science centers could use its granularity to balance conservation with public access. Theme parks and multi-building attractions could adapt its IT-friendly design to centralize operations across large campuses.

Going bespoke

For SMI, which at this writing is still on the LiCA team as the system continues to be refined, the project marks a turning point. "Most of the stories about us in recent years have focused on ISAAC," said David Rouchet. "LiCA is different – it is fully custom software, designed for one client but with lessons that can be generalized."

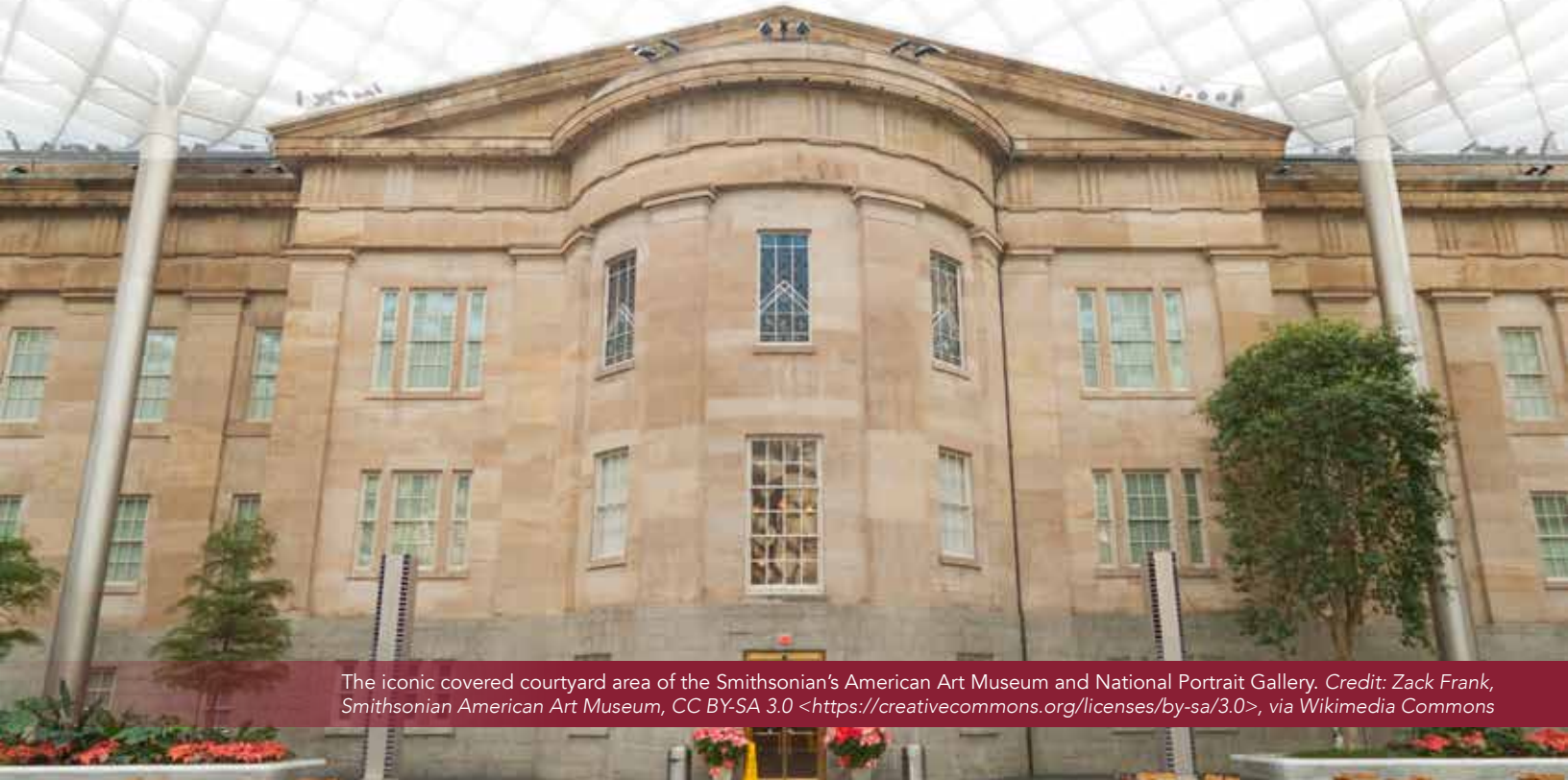
"It paved the way for us internally," said Strauss. "We learned how to apply our processes to bespoke software and realized there's a real demand for it. It's not just about hardware anymore. It's about making systems that people can actually use."

This kind of specialized product development offers a way to bring owners and operators closer to their spaces. As co-founder Stephan Villet observed, "There are still times when you need something completely bespoke. It has the huge benefit to clients of engaging them more deeply in realizing their environment."

Smart Monkeys Inc. company members will be in Orlando attending the IAAPA Expo. For more information or to set up a meeting, email info@smart-monkeys.com. Visit the SMI website at www.smart-monkeys.com. •



Judith Rubin is a leading journalist, content marketing specialist and connector in the international attractions industry. She reports on design and technical design, technology, production and project management, industry trends and company culture. From 2005-2020 she led communications and publications for the Themed Entertainment Association (TEA) and was editor of the annual TEA/AECOM Theme Index. She has been honored with the TEA Service Award. She was development director of IMERSA and publicist for the Large Format Cinema Association, and has contributed to the publications of PLASA, IAAPA, GSCA and the International Planetarium Society. She began her work in the attractions industry in 1987 at World's Fair magazine. In 2010, she joined InPark. Connect with Judith at linkedin.com/in/judithrubin/.



The iconic covered courtyard area of the Smithsonian's American Art Museum and National Portrait Gallery. *Credit: Zack Frank, Smithsonian American Art Museum, CC BY-SA 3.0 <https://creativecommons.org/licenses/by-sa/3.0>, via Wikimedia Commons*



Imagining together

BRC's Christian Lachel on the USA Pavilion at Expo 2025 Osaka

interview by Martin Palicki

With 25 million visitors passing through its gates from April 13-October 13, 2025, Expo 2025 Osaka, Kansai offered some 200 national, corporate, signature and government pavilions, live entertainment, a nightly lagoon show, international cuisine and a stunning architectural structure encircling the grounds. [For more on the best of Expo 2025 Osaka, see InPark issue #106]

The United States pavilion quickly earned a reputation as one of the event's most popular experiences. The long and narrow building was designed with a triangular wedge carved out of the middle, creating an entrance flanked by giant LED screens showing scenes from cities and towns across America. The pavilion included a souvenir shop, restaurant, performance stage and rest areas, but the main attraction was the nearly 25-minute tour through the pavilion.

Inside, guests met Spark, the self-described Ambassador of Imagination and Professional Firecracker. The star-shaped mascot guided guests across five distinct experiences: Connecting, Innovation, Travel, Space, and Launch. The catchy theme song "Together (by Spark)" carried the message throughout the pavilion (and is available on iTunes and Spotify).

Above: The USA Pavilion greets guests with a symbolic, wide welcoming entrance with large canyon-like LED screens for dramatic impact. ©Hufton+Crow

Working under the oversight of the U.S. Department of State, BRC Imagination Arts helped lead a creative team to develop the pavilion exhibition and branding, guided by the company's three decades of experience creating world's fair pavilions and a skill for blending theatrical storytelling with cultural diplomacy. Leading the project for BRC was expo fan and Chief Creative Officer Christian Lachel. He even credits his own existence to the 1893 world's fair (the World's Columbian Exposition) which drew both sets of his great grandparents to Chicago for opportunities associated with the expo. We asked Lachel to reflect on how the 2025 USA Pavilion came together, the role of story, music and character design in shaping the guest experience, and why expos remain salient.

How did the concept and team for the United States pavilion come together?

Expos have always been part of our DNA at BRC. We've designed pavilions for countries and corporations through the years, starting with Vancouver Expo 86 and participating in nearly every expo since then. And this was our fifth time working on a USA Pavilion, but because this one had congressional appropriations – meaning we didn't have to rely solely on corporate sponsors to fund the pavilion – the process was a bit different than previous years. BRC formed a consortium with ES Global, Alchemy International and Trahan Architects to respond to the U.S. Department of State's bid for the pavilion.

The government's brief and overall vision called for highlighting travel and tourism, both NASA and commercial space exploration, technological innovation and cultural programs like the U.S. JET (Japan Exchange and Teaching) Program. We also knew we'd be in the "Empowering Lives" thematic section of the Osaka Expo, which framed the conceptual direction early on.



Meet Spark, the USA Pavilion's mascot for Expo 2025 Osaka, Kansai. *Courtesy of BRC and the USA Pavilion*



Christian Lachel, Chief Creative Officer

Drawing on past experience creating pavilions for expos Japan has hosted over the decades, as well as a number of other attractions in Japan gave us a sense of cultural context. We understood early on that a strong central character, a mascot woven into the entire pavilion story, would resonate with audiences. That animated character became Spark, emblematic of the fun experience we wanted to create. We also anticipated a multigenerational audience with many older visitors who remembered Expo '70 (also hosted in Osaka), so we wanted to lean into that nostalgia while creating something new.

How did that translate into the pavilion's theme and messaging?

Over the years, we've learned several important lessons about designing for expos. First, we know that if you try to communicate too many messages, the audience tends to forget them all. One strong idea creates emotional clarity. Secondly, we believe the best pavilions celebrate the world of the audience, not just the focus country. With those guidelines in place, we quickly homed in on one clear idea: *Imagine What We Can Create Together*. It's a universal theme that allowed us to bridge a wide range of content under a single message.

We also built the theme to outlast political transitions. Expos often straddle administrations, so it had to work no matter who was in office. Because the message was universal, it held steady through the entire development process.

What was BRC's role on the project?

Our team worked closely with Trahan architects, Alchemy and the Department of State Expo unit to shape the visitor experience and flow. We developed the pavilion's branding, messaging, storyline, scripting, mascot, and experiential design. We led media and music production, designed the guest spaces, and helped train the operations team on key storytelling moments. We also had story and design guardianship over the fabrication and fit-out work done by other partners. It was a comprehensive creative scope from blank piece of paper through opening day and beyond.

How did you work with Trahan Architects to ensure the experiences you were creating fit into the spaces they were designing?

As always, it was a very collaborative process. We had meetings where we mapped out needs such as gallery sizes, staging, circulation and VIP spaces. We then worked together to adapt those requirements to the long, narrow site. It was a bit like designing a row house in a tight urban environment: every inch mattered.

At one point Trahan suggested removing a section of the pavilion to create a symbolic, wide welcoming entrance with large canyon-like LED screens for dramatic impact. It was beautiful and meaningful, but it also introduced trade-offs, namely making spaces smaller with longer walkways between the main exhibit rooms. But we loved the idea, embraced the challenge and found solutions together.



Inside the Travel section of the USA Pavilion, guests look at a series of angled screens to see scenes from cities and towns across America. ©Hufton+Crow



Rocket boosters emit smoke in a large room designed to simulate a spaceship launch sequence in the BRC Imagination Arts designed USA Pavilion. ©Hufton+Crow

How did you approach balancing entertaining spectacle with informational substance?

At BRC we frequently are tasked with blending educational content with entertainment, so it's a process we are quite familiar with. One of our solutions was to develop a song that carried the message of the theme. Music is universal – it bridges language and cultural barriers. A well-crafted song can deliver a lot of emotional and narrative weight in just three and a half minutes per scene.

We worked closely with Yessian Music Global to create a tune that felt contemporary, timeless and would at the same time appeal to a primarily Japanese audience. That musical through-line became the backbone of the entire experience. Even as we tweaked specific images or content elements shifted slightly during our process, the heart of the story stayed intact. It's been a genuine hit with visitors.

Our other secret was to create impressive "wow" moments interspersed with more informational elements. My favorite example is the immersive launch gallery. We employed the classic architectural technique of compression and release to really make a moment of awe and wonder. After guests learn about our innovative space program, guests move through a low-ceiling hallway and then suddenly enter a soaring room with 9-meter tall LED screens stretching from floor to ceiling. Boosters overhead are spitting out smoke and guests realize they are about to be part of a rocket launch.

It was the most memorable part of the pavilion for me.

I believe that's true for a lot of people who experienced it. We outfitted one of the walls of the launch gallery with a very large mirror surface to help visually open up the space a bit more. Instagrammable moments and photo-ops are important in any attraction, and we were pleased to see that our mirrored wall was an instant selfie and social media magnet.

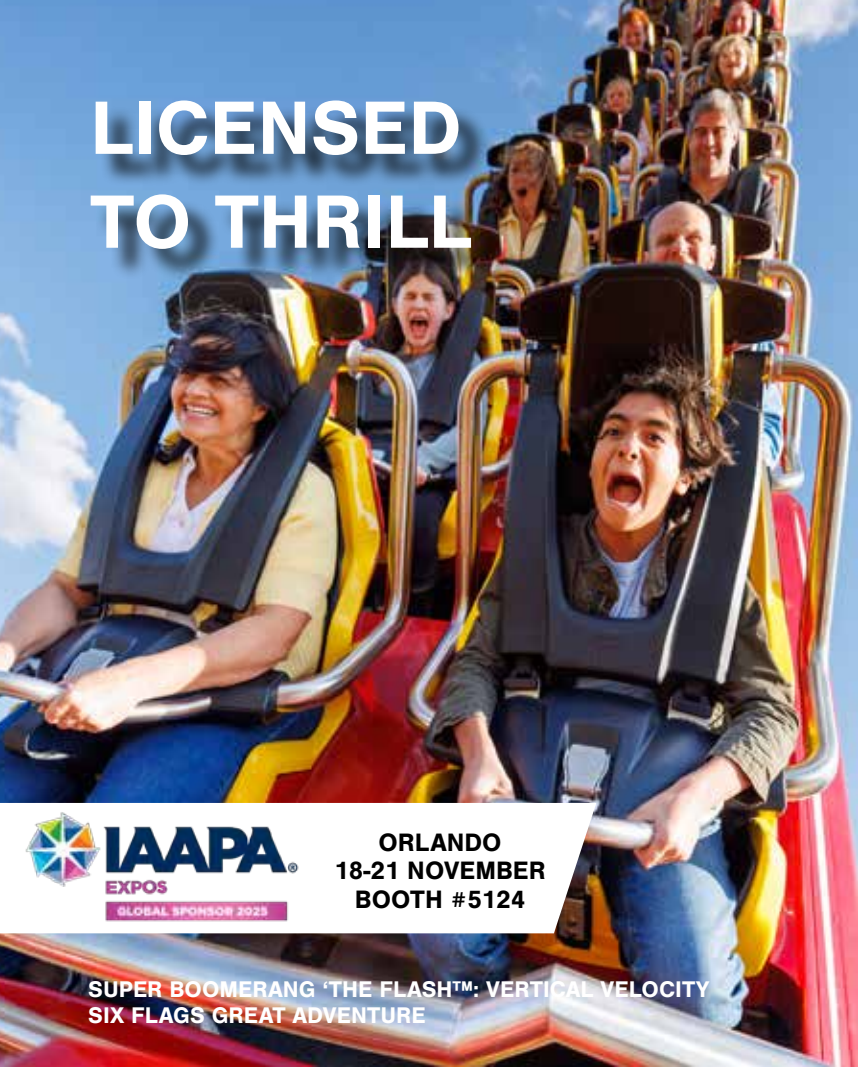
What stands out to you as the pavilion's biggest success?

We hosted nearly two million visitors through the main exhibition, and the response has been overwhelmingly positive. The pavilion delivers joy and togetherness at a moment when the world really needs that. We designed something the audience loves, not just a statement about us. That's the best measure of success.

What's next for BRC on the expo front?

We're already looking toward various pavilions for Expo 2027 in Serbia and Expo 2030 in Riyadh. Every expo teaches us something new, but our north star remains the same: awaken the best in people and create experiences that resonate deeply. •

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Beyond the season

How B Morrow Productions engineered a blueprint for growth

by Martin Palicki and Becci Knowles

Brian Morrow, owner of B Morrow Productions (BMP), has spent his career looking for ways to bridge creativity with practicality. Since its founding in 2018, BMP has grown from a one-person consultancy into two full studios: design and production, with more than 60 professionals working out of a 90,000 sq. ft. facility in Orlando, Florida. The BMP team, including leadership and most of the company's talent, originated on the operator side of the industry, giving them deep insight on the importance of both exceeding guest expectations and working within operational reality. As a result, the company is recognized across the attractions industry for its ability to deliver projects that are creatively original, operationally balanced and revenue generating.

BMP's path has been steady rather than sudden. Its growth arrives from listening to client needs, responding with scalable solutions, and structuring the company around services that complement each other. Today, BMP is a prop manufacturer, a creative design studio and seasonal event developer supporting theme parks, cruise lines, museums, zoos, aquariums, and resorts, often working alongside other design and fabrication partners.



Brian Morrow

The early days of BMP

Morrow's career prior to BMP shaped the foundation of the company. He began in park operations, later joining Six Flags' design team. Working for the general contractor on Disney's Animal Kingdom Asia area, he gained firsthand knowledge of scenic construction, rockwork, and prop integration. "That's where I really learned how things get built," he recalls. "It gave me an appreciation for the craft and for the people who bring drawings to life."

Top and opposite (left): Universe of Light featuring DC Comics Lantern Show at Gaylord Texas, a 17,500 sq. ft. walk-through with more than 1,000 glowing lanterns, was conceived and produced in only three months. *All photos courtesy of B Morrow Productions*







BMP's design and creative studio designs exhibits, attractions, themed lands and more for clients around the world.

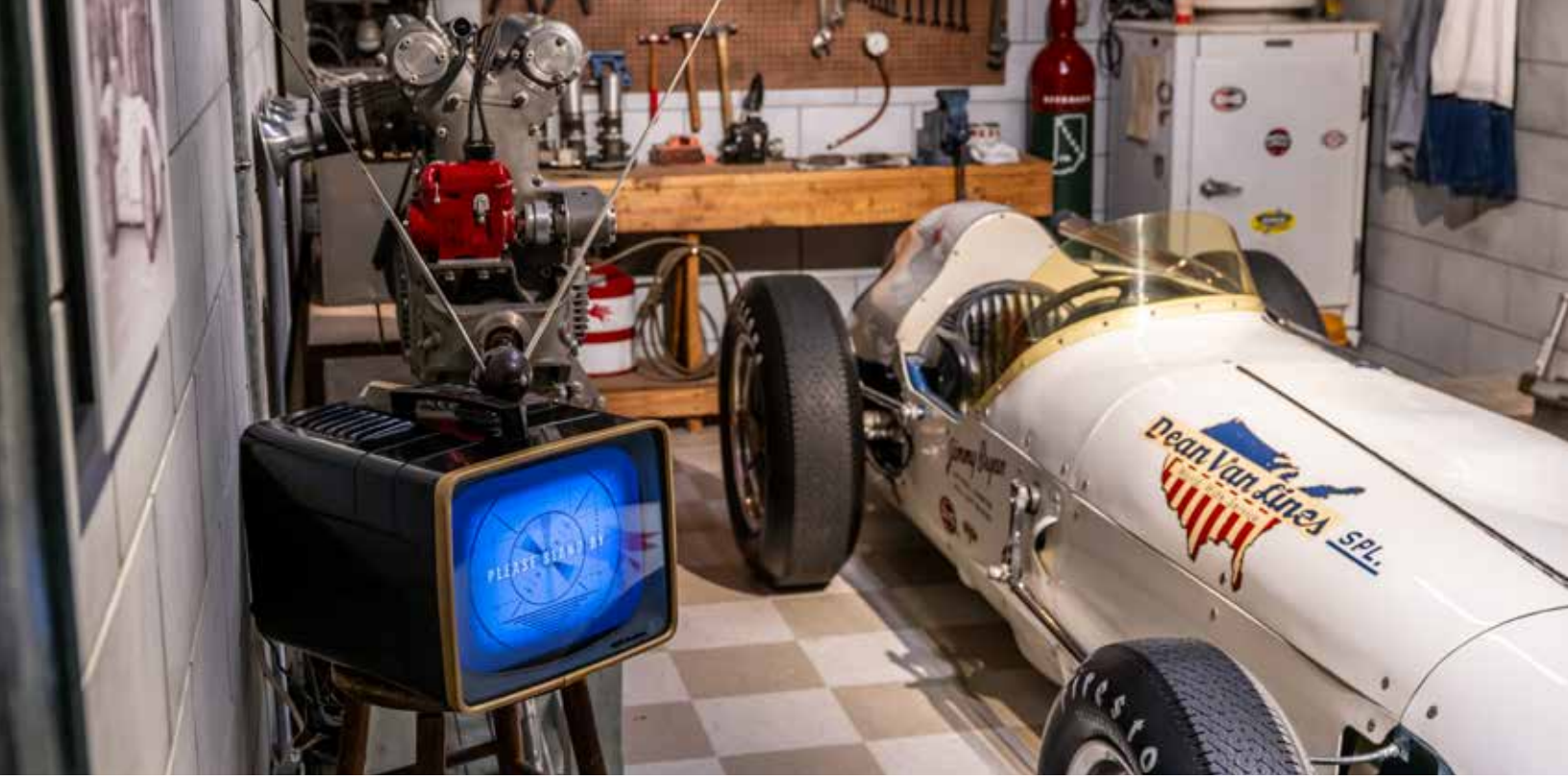
Leadership positions at ZooTampa and as VP of Attraction Development for SeaWorld Parks (now United Parks & Resorts) added new layers of experience. At SeaWorld, Morrow oversaw major attraction developments for the entire portfolio while balancing budgets, schedules, and guest needs – lessons that became central to BMP's operating philosophy.

By 2018, Morrow was ready to apply this broad background to a new venture. "My approach was to explore narrow, but very deep verticals of work opportunity," he explains. Early projects with Sally Dark Rides and JRA (now RWS) set the tone: BMP would grow organically, guided by client feedback and market demand rather than a fixed playbook.

Three pillars of service

Today, BMP's work is organized around three divisions: holiday décor and seasonal events, props and fabrication, and the design and creative studio. Each has its own focus, but together they create a flexible business model that allows BMP to balance seasonal demand, support major theme park operators, and bring the studio's unique creative approach to every project.

Holiday décor and special events were the company's first foothold in the market. During the COVID-19 pandemic, attraction development work evaporated and Morrow anticipated that outdoor seasonal events would be among the first to return to operation safely. That prediction brought in major clients like ZooTampa and Gaylord Resorts. Today, holiday and event services remain a cornerstone of BMP's portfolio. The company designs and installs large-scale décor programs that can be enjoyed by guests year after year. Efficiency is built in from the start – assets are designed to be durable, adaptable, and reusable across multiple seasons. The company also plans for storage and handling, reducing the long-term labor burden for clients. BMP's holiday work is



BMP is known for its prop design and fabrication services, particularly when vintage or period pieces are required.

not just about creating festive spectacle; it's about creating revenue generating experiences that deliver joy while keeping budgets manageable.

Scenic and prop fabrication is the fastest growing division at BMP and has since grown into the company's year-round core business. BMP's shop produces more than 5,000 themed props annually, ranging from historically accurate recreations for museums to stylized props for theme parks and cruise ships. A museum client might need artifacts reproduced with painstaking accuracy, while an entertainment client might need IP-branded elements that pass rigorous approval processes. BMP's fabrication team balances these requirements, producing pieces that are durable, safe, and visually compelling. Beyond volume, the team is known for "de-risking" the prop industry with bespoke processes and creative first thinking. It's a philosophy that elevates work that could easily be treated as background into integral parts of the guest experience.

The design and creative studio completes the trio. BMP's designers and concept artists work closely with fabricators and project managers, allowing them to provide realistic, "buy now" cost estimates early in the process. This integration reduces the risk of cost overruns and rework, saving clients time and money. The studio also serves an external role, supporting other design firms, theme park operators and attraction developers. A creative team may bring BMP in to flesh out concepts, provide detailed documentation, or even prototype ideas that can be built by BMP or another vendor. In this way, BMP's design studio acts as both a front-end service for its own projects and a support system for the wider industry.

Collaboration at the core

Collaboration is a hallmark of BMP's approach. Roughly 40% of the company's projects involve partnerships with other firms. BMP works with major operators such as Disney, Universal, Six Flags, Herschend Family Entertainment, and United Parks & Resorts, but also partners with smaller shops and specialty vendors. BMP shares overflow work or contracts specialized partners when projects call for unique expertise. This flexibility has earned the company a reputation for being a reliable collaborator rather than a rival.

Event master planning

One of BMP's signature services is Event Master Planning. Just as facility master planning guides expansion, Event Master Planning creates a long-term roadmap for seasonal events and experiences. The team plans and optimizes investments with multi-year strategies that align with growth goals and guest expectations, designs scalable concepts, and maximizes cross-event use of scenic, sets, and assets – building efficiency, ROI, and guest loyalty year after year. Staffing and labor cost models are also integrated, ensuring that events can scale up for peak attendance.

The impact has been significant. The Indianapolis Zoo reported an increase in event attendance after implementing a BMP master plan. ZooTampa and the Florida Aquarium have seen similar gains. "Our Event Master Planning builds strategies that save clients money, time, and labor – whether they use us for implementation or not," Morrow explained. The service is flexible enough that clients can choose to execute the plan with BMP, with their own in-house teams, or with other vendors.

Smart decisions under pressure

BMP's adaptability has been tested on high-profile projects. Universe of Light featuring DC Comics Lantern Show at Gaylord Texas, a 17,500 sq. ft. walk-through with more than 1,000 glowing lanterns, was conceived and produced in only three months. "Our entire design process was about six weeks, including IP reviews with Warner Brothers and DC Comics," says Morrow. "The project would not have been possible without the leadership of Gaylord Resorts, who streamlined the development process and provided exact creative clarity for the experience. "

Recently, when tariffs threatened to increase material costs, BMP formed a task force to identify alternatives. By sourcing different suppliers, testing new materials, in-house production, and implementing upcycling strategies, the company reduced client exposure to tariffs by 85% – and not one client was impacted by the tariffs.

A culture of care

Underneath it all, BMP's company culture underpins its growth. Each January, the company takes a wellness week after the holiday season to allow staff to rest and recharge. The practice acknowledges the team's contributions of the last year and ensures the talent is rested and recharged for the next. Diversity is emphasized throughout the organization, with teams built to reflect the audiences BMP serves and a corporate mantra of "Studio For All." This inclusive environment has led to strong employee retention, which in turn creates continuity and expertise across projects. "We want BMP to be a place where people want to work," says Morrow. "When the team feels supported and cared for, the quality of the work follows."

Making it happen

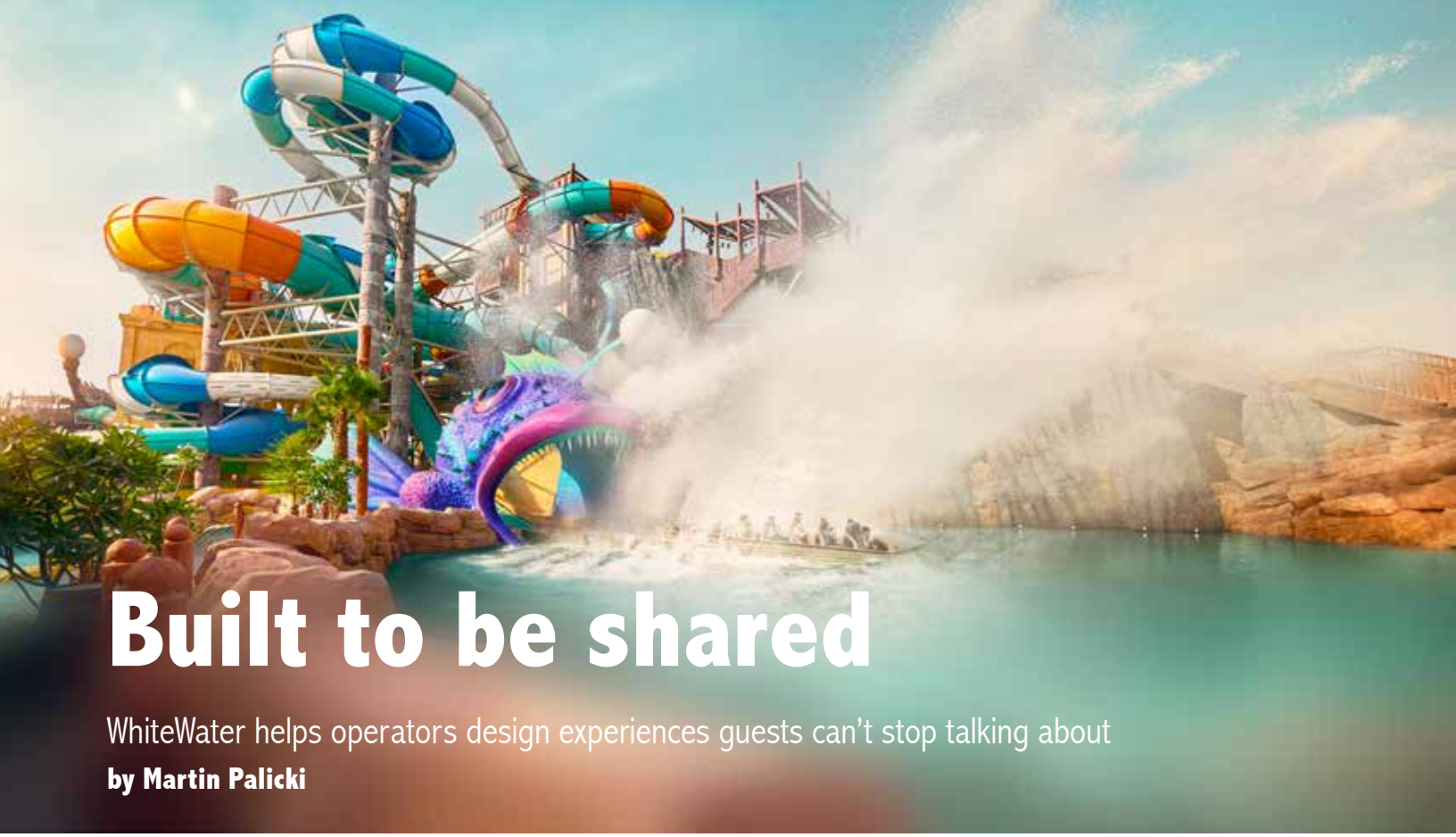
With steady growth and a reputation for versatility, BMP is well established as a full-service design, production, and planning studio. The company's next chapter is less about reinvention and more about refinement – continuing to adapt processes, deepen collaborations, and align with the evolving needs of operators.

Morrow frames it simply: "We've built BMP around the idea that every project is a partnership. Our company tagline is 'Make It Happen' because when we align our design and production skills with a client's vision, that's when the best work happens."

In an industry where capital projects must justify every dollar and seasonal events compete fiercely for guest attention, BMP has found a sustainable formula. By listening carefully, designing with practicality in mind, and treating each assignment as a collaborative effort, the company has engineered its own blueprint for growth – one that works for every season. •

BMP's theming and fabrication skills are put to use in crafting this haunted ship bar scene.





Built to be shared

WhiteWater helps operators design experiences guests can't stop talking about

by Martin Palicki

In a crowded marketplace where parks need to compete for attention and attendance, simply building a ride isn't enough anymore. Guests arrive with smartphones in hand, social media accounts ready, and opinions they're eager to broadcast. A single viral video can draw thousands of new visitors. Conversely, a wave of bad reviews can keep families away. In this brave new world where peer reviews matter more than ever before, marketing is no longer in the hands of the parks – which means parks need to create ways in which guests can broadcast for them.

WhiteWater, a leading designer and manufacturer of water attractions, has been at the forefront of this evolution. By blending ride design with a deep understanding of guest behavior and marketing dynamics, the company helps parks create experiences that people can't stop talking about – and can't stop sharing.

Una de Boer, WhiteWater's Chief Marketing Officer, puts it simply: "People don't trust paid advertising the way they used to. If you visit a city and want to book a restaurant, you don't just check the ad, you read reviews, you look at ratings, you see what other people are saying. That's called 'social proof,' and it has become central to how parks drive visitation." Furthermore, social proof can directly impact the bottom line. In the case of hotels, Katanox reports that travelers are willing to pay 35% more for a hotel with higher guest rankings and better reviews.[1]



Una de Boer, WhiteWater's Chief Marketing Officer

From campaigns to credibility

For decades, marketing for attractions was built on traditional media: TV spots, radio jingles, magazine ads, billboards. While they still create brand awareness and plant the idea of a visit, increasingly what seals the decision is what people find online. Families watch ride POVs on YouTube, browse hashtags on Instagram, or scroll TikTok for influencer reactions.

"There's a hierarchy of trust when it comes to sources of information," says de Boer. "Traditional media used to carry the most credibility because of research and verification.

Above: WhiteWater's Shoot the Chute attraction at Yas Waterworld in Abu Dhabi is weaved through a waterslide tower, making interesting views for guests both on and off of the ride. *All photos courtesy of WhiteWater*

Now, people trust peers and influencers more than brand messaging. You can have the best targeted Instagram campaign, but consumers still want validation from someone else." According to CrowdRiff, 92% of consumers trust word of mouth and UGC more than other forms of traditional brand advertising.[2]

What's UGC? It's user-generated content, which means you're earning positive word-of-mouth coverage from your guests. For operators, this means the experience itself must become a marketing engine. Every attraction, every sightline, every emotional beat is a chance to inspire user-generated content that reinforces the brand message with third party credibility. Another benefit of UGC is that it can reduce content creation costs by 30%[3] by offering a budget-friendly alternative to professional content while also offering proof that you're positively engaging your visitors.

One of the clearest illustrations came with the first U.S. installation of a SlideWheel® at Mount Olympus in Wisconsin. Initially skeptical of social media's marketing power, the park's management quickly changed their minds after working with an influencer.

"One of WhiteWater's early social media partners, Alex Ojeda, posted a video of the SlideWheel," recalls de Boer. "Bookings went through the roof. The hotel saw a surge in reservations, and the park was busier in the following weeks. It was measurable, immediate, and undeniable. The park owner, who had been doubtful, became a total convert to the power of social media."

SlideWheel's spinning slide that lights up at night is an intriguing icon that people naturally want to share. That experience highlighted a simple truth: when a ride is both fun and visually striking, it naturally helps fuel digital word-of-mouth.

Social proof and algorithms

Guest-generated content doesn't just influence people, it influences algorithms. Search engines and AI increasingly evaluate credibility based on engagement and online chatter. Parks with more authentic reviews, shares, and mentions are more likely to surface in recommendations and summaries.

"Just creating content you control isn't enough anymore," de Boer explains. "You need other people talking about you. That's what AI notices. Social proof drives both human and algorithmic perception." Ads featuring user-generated content achieve four times higher click-through rates than branded ads.[4]

This has profound implications. It means marketing is no longer a push activity alone. It's also a pull strategy, where the park's guests do much of the heavy lifting by sharing their genuine experiences.

While most guests probably aren't going to tag the manufacturer of your attraction, having a well-known attraction that they've seen at other parks helps build awareness for your park by piggybacking on the popularity, such as a Boomerango or Master Blaster.

Designing for shareability

While creating "Instagrammable" moments has become a buzzword across the hospitality industry, WhiteWater stresses that it's not just about a single photo backdrop. It's about designing entire experiences that are positive, photogenic, memorable, and worth sharing. "Details like ride comfort, smooth slide joints, landscaping, and clean facilities all matter," says de Boer. "They shape the story people share. Did you enjoy the experience or was it unpleasant? No one wants an unexpected face full of water from a poorly designed ride."

At Yas Waterworld in Abu Dhabi, WhiteWater helped create a notable example. Bahamut Rage, a Shoot the Chute water attraction integrated into a waterslide tower, propels guests down a 15-meter drop into a spectacular splash. Importantly, the attraction also offers viewing areas where non-riders can



Built by WhiteWater, the Icarus slide tower at Mt. Olympus features not only a thrilling assortment of slides but also makes a visual statement that inspires selfies, social media posts and positive reviews.



The owners of Mt. Olympus saw an immediate increase in resort bookings after a social media influencer posted a positive video about their new SlideWheel attraction from WhiteWater.

watch (and record) the big splashdown, either getting soaked in the process or staying dry, depending on their location. The effect is to turn the ride into a theater of spectacle, ideal for photos and videos.

"Adding that spectator element makes the ride inclusive in a new way," notes de Boer. "It's not only thrilling for the riders but also for friends and family who want to watch, film, and share the moment. That's exactly the kind of design that multiplies a ride's marketing power."

Other attractions follow similar design principles. WhiteWater's AquaPlay structures are colorful and kinetic, with giant tipping buckets that build anticipation before drenching crowds, a guaranteed fun experience and a notable video magnet. FlowRider surf simulators are essentially built like stages, creating an arena for bystanders to enjoy, film and share in all the surfing triumph as well as the wipeouts.

Authenticity matters

With the power of influencers evident, some parks might be tempted to manufacture buzz. But audiences can sense when content is staged and de Boer stresses that authenticity always wins. "The best influencer posts aren't glossy ads. They're raw moments: the scream at the top of a slide, the family laughing together in the wave pool. That's what people trust." And brands have taken notice, with Joli reporting that 56% of brands now focus on UGC as a core part of their marketing strategies.[5]

WhiteWater helps operators think about which attractions lend themselves naturally to influencer content, as well as how to balance experiences to help narrative content flow easily across the course of a visit. Big, dramatic rides provide instant impact. Interactive features highlight family bonding. Theming transports guests to new worlds. Surf simulators blend skill with spectacle. When the experiences themselves deliver, influencer partnerships feel organic rather than forced.

Supportive infrastructure

Creating the experience, the environment and the visual appeal is only part of the equation. The easier a park can make it for guests to capture and share content, the better. Park-wide wifi, for example, provides easy and fast access to the internet for guests to post quickly and often.

Developing new ways for guests to use their devices within the park can also help. According to 5W PR Agency, Holiday World, Splashin' Safari saw a 35% increase in social-media mentions and UGC after implementing AR filters for their attractions.[6]

Advanced systems like WhiteWater's Vantage platform offer even more advantages and tools to help streamline the experience-to-content pipeline. Vantage provides operators key data about their park and also offers guests easy access to on-ride and in-park media directly in the app on their phone. Because Vantage ties ride experiences to guest profiles, photos and videos can be automatically captured, shared, and most importantly, branded. "The magic of Vantage is that it integrates seamlessly," says de Boer. "It doesn't feel like a marketing tool to the guest; it just enhances their experience. But for operators, it's a powerful driver of engagement and loyalty."

Lessons to live by

The lesson for operators is clear: marketing needs to be considered before an attraction is fully conceptualized. Marketing value for the park is found in the stories guests tell – in photos, videos, reviews, and conversations – that drive credibility and choice.

WhiteWater's role is to ensure those stories are worth telling. By embedding marketing thinking into ride design, the company creates attractions that double as content engines. By guiding operators on theming, layout, and guest touchpoints, WhiteWater helps parks turn every detail into an opportunity for fun and sharing. "Smart operators realize marketing isn't just pushing messages," de Boer concludes. "It's about crafting experiences people want to share. When you get it right, the results speak for themselves, both online and in the park." •

[1] https://katanox.com/blog/the-impact-of-user-generated-content-on-travel-decision-making
[2] https://crowdriff.com/resources/ugc-stats/
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The Elmont brings together three distinct businesses into one facility, with media and AV equipment used extensively throughout the facility. *All photos courtesy of Just Add Power*

Building an AV oasis

Texas integrator Custom AV uses Just Add Power to manage massive multi-venue AV integration at The Elmont Resort in El Paso

by Ed Qualls, CEO, Just Add Power

Nestled in the heart of El Paso, Texas, The Elmont stands as a premier hospitality destination, featuring a sprawling waterpark, a dynamic event center with three different ballrooms, and a full-service restaurant. For a venue of this scale, the audiovisual experience is not merely an amenity but essential to the guest experience, setting the tone for events which vary from lively poolside gatherings to elegant corporate functions.

Located in a unique residential and commercial development, The Elmont is a distinctive venue well-known for hosting noteworthy day and nighttime events. When the venue needed an AV upgrade to maintain the quality of these events, they turned to Custom AV LLC, a local integration firm with expertise in designing sophisticated AV systems for the hospitality sector. Custom AV LLC selected Just Add Power products to help create the ultimate solution.

The challenge: Combine three unique businesses into one shared platform

The project at The Elmont presented a unique set of challenges, kicking off with the fact that the main equipment room was located inside of the event center, which was set to be the last building completed. The venue's diverse footprint meant a complex mix of close to 70 displays was required across all three different environments. This included everything from 75" displays from LG, projectors with 150-inch screens, a 220-inch Planar indoor LCD/LED video wall, and a 300-inch outdoor Giant Installs LED video wall, and more. The goal was to integrate them all to one platform.

"The system had to allow each business – the waterpark, the restaurant/club house, and the event center – to operate independently with their own audio, video, and control signals," said Baldo Nevarez, president of Custom AV LLC. "Combining

these three very unique, different businesses into a streamlined and shared platform was quite the obstacle. At the same time, it needed the capacity to act as one unified system for large-scale events, where content could be mixed and shared across the entire facility. An additional logistical hurdle was handling the two different management companies that oversee the operations of the property."

The solution: AV-over-IP and Just Add Power

After careful consideration, Custom AV determined that an AV-over-IP solution would be the most effective way to meet The Elmont's requirements, with Just Add Power emerging as the ideal supplier. The team deployed a comprehensive system utilizing Just Add Power Ultra encoders and decoders, which are connected over a 40GB fiber infrastructure in a star topology network configuration in the central equipment room. This setup enables them to convert a wide range of audio & video sources into a scalable IP stream and route signals to any of the 70 displays, 10 audio amplifiers and over 140 speakers across the complex. The team also deployed Dante IP stereo audio extraction as well as 1Gb networking for control & operations.

Just Add Power's Ultra platform delivers 4K@30Hz Ultra HD with HDCP 2.2 support, ensuring high-quality, ultra-low latency transmission of 4K or lower-resolution sources. The built-in scaler on the encoder allows for seamless display on both 1080p and 4K screens. Other features include image pull for visibility on control devices, instant switching, and a modular design that facilitates expanding the system with additional sources or displays – a process as simple as adding another transmitter or receiver.

For Nevarez, the choice to use Just Add Power was clear: "We've used Just Add Power on countless projects, and it just works – point blank. There is zero latency as well as perfect switching, and no fuss with EDID or HDCP."

The system's reliability was critical for a complex installation with varied content and display needs. The modular nature also addresses the scalability concern and future-proofs, ensuring that The Elmont can easily add more displays or sources in the future.



Right: This media rack shows the relative complexity of the AV system requirements at The Elmont.



The waterpark at The Elmont offers private cabanas with individually controlled TVs. Just Add Power allows guests to easily change the television feed.



Screens are an important part of the full-service restaurant at The Elmont. Controls for each of the screens are simplified thanks to Just Add Power.

The system supports a variety of applications, including live events where a camera captures the happenings on stage while routing the video feed anywhere throughout the facility. Live television appears throughout the premises via 10-shared satellite receivers. The system also includes a digital signage platform for distributing announcements, marketing materials, and other content across the property.

The results

The newly implemented system installed by Custom AV made a bevy of promises – and with the help of Just Add Power it has delivered. Most impactful is the visual impact of the large displays, particularly the outdoor LED video wall at the waterpark which serves as a main focal point and a huge draw for the resort. But beyond the visual spectacle, the system's true benefit lies in its flexibility and ease of use.

"The user can bring a computer, plug it in, and be able to share that video not only within that space but anywhere in the facility," said Nevarez. "The system's control interface is simple enough that anybody can pick it up. It's highly intuitive, which is important for staff rotation. The ability to host live events with flawless audio/video distribution as well as the option to manage digital signage content remotely and create content schedules has provided the client with the powerful tools they need to manage their operations effectively."

Custom AV's work at The Elmont showcases the benefits of an AV-over-IP approach in complex hospitality environments. By choosing the powerful and scalable platform of Just Add Power, Custom AV LLC overcame significant logistical and technical challenges. Their expertise in implementing this solution not only met but exceeded the client's expectations, delivering an AV system that is both high-performing and user-friendly. The AV oasis that is The Elmont Resort can continue to create memorable guest experiences with reliability and flexibility for years to come. •



Ed Qualls is the CEO of Just Add Power. The company is headquartered in Seminole, Florida. For more information, visit justaddpower.com.

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The global attractions industry is entering a new era — one defined not just by creativity, but by geography. As mature markets plateau and competition intensifies in the West, the Middle East is charting an entirely different trajectory. Here, development pipelines are expanding, entertainment is becoming a pillar of economic growth, and the appetite for innovation is boundless. At the epicenter of this transformation lies DEAL 2026, the 32nd edition of the region's longest-running and most influential B2B event for the entertainment, amusement, and leisure industries.

Why DEAL Matters?

DEAL's strength lies in its precision. Over the years, it has built a reputation as the most commercially effective show in its category — an event where exhibitors meet decision-makers who arrive with live budgets and concrete plans. The show's three-day format is intentionally compact, ensuring every conversation carries weight. Exhibitors don't just showcase innovation; they close deals.

In an industry often dominated by mega-fairs, DEAL offers an intimacy and focus that make it stand out. The attendee profile extends beyond operators to include mall owners, real estate developers, family offices, government entities, and investors overseeing destination-scale projects. This concentration of decision-making power is what makes DEAL 2026 a must-attend event for global manufacturers, technology innovators, and solution providers.

The upcoming edition is fine-tuned for performance. The organisers are introducing sharper show zoning, pre-scheduled buyer meetings, and curated networking formats to align with exhibitors' commercial goals. The content program will spotlight operational excellence — exploring topics such as cashless adoption, safety compliance, data analytics, and sustainable materials. The message is clear: this is a show designed for business outcomes, not just brand visibility.



A Market in Motion

The Middle East's leisure sector has matured from sporadic projects into a continuous pipeline. In Dubai, Qatar, Egypt, and other fast-developing hubs, FECs, theme zones, and indoor parks are now central to retail and community planning. Developers are seeking global partners who can deliver turnkey attractions that combine innovation, efficiency, and sustainability.

This market maturity also means opportunity across the value chain. For established players in fabrication, theming, and ride technology, the region offers repeat projects and multi-site rollouts. For emerging companies in AR, VR, and digital entertainment, it presents an audience eager to adopt the latest innovations. The convergence of design, technology, and investment is redefining what entertainment means in the region — and DEAL remains the most effective platform to access this evolution.

Looking Ahead

As the leisure landscape continues to evolve, DEAL 2026 stands as both a mirror and a catalyst of that progress. It is where ambition meets access — where global ideas are shaped into regional realities.

For exhibitors, the opportunity is clear: a focused, commercially-driven platform connecting the world's most creative minds with one of its most rapidly expanding markets. The Middle East's story is no longer about potential; it's about performance — and DEAL 2026 is where that story will be written.

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Bold, contrasting colors make a statement as the lights cycle through different looks between gameplay sessions at Rays, in Council Bluffs, Iowa. *Photo credit: John Jenkinson*

New wavelengths

Visual Terrain debuts Luminous Terrain, making playing with light fun for everyone

by David Green

In 2009, Lisa Passamonte Green, CEO and Principal-in-Charge of U.S.-based lighting design firm Visual Terrain, received a call from artist Dan Corson. Since they had attended San Diego State University together, Dan had become a successful artist, using light in many of his installations. He described to Passamonte Green the concept for a new public art project, called "Rays," that he envisioned to be a canvas for a giant ever-changing light environment that echoes patterns of the past and updates them for the future. Located on the five-acre Great Lawn at Tom Hanafan Rivers Edge Park in Council Bluffs, Iowa, these "living lights" would move, and interact and play games with the guests.



Lisa Passamonte Green

Passamonte Green was immediately drawn to the project. "The guests could play with the lights," she said, "and even more fun, the lights would play with the guests." Dan asked Passamonte Green to assemble a team to execute the artwork, so she called Bandit Lites for integration and programming, and Beaudry Interactive to develop the interactive system that made everything possible. (At the grand opening celebration, Yessian Music provided a soundtrack for the installation.)

The team delivered "Rays" to great fanfare in 2013. The installation presented a "show" mode and an "interactive" mode, the latter including a set of eight different games the lights could play with the guests, including:

- Cat Laser Toy: Guests try to "catch" a spot of light, which continually avoids them.
- In the Spotlight: Lights randomly select and follow a guest as they walk through the park. However, another guest can steal the spotlight through clever intervention with the light.
- Stealing Dorothy Hamill's Spotlight: All the lights in the park randomly select a guest and make them the star of the show (just like the famous figure skater).
- Flash Mob: If a group in the park acts together, either jumping up and down, or running in the same direction, the lights react in a crazy, celebratory fashion (called a "ballyhoo"), bouncing, whirling, and changing colors all over the park space.

"Rays" opened and ran continuously, without significant maintenance or intervention, until the park and control room were submerged by a 100-year flood in 2019.

Reinventing "Rays"

The loss of the installation was fresh in Passamonte Green's mind when the Covid-19 pandemic struck in 2020. As many projects went on hold, she looked for a way to keep her team busy during the lull. She thought, "What if we could make a version of 'Rays' that could be presented as a standalone product that anyone, anywhere, could install and their guests could experience light in new and playful ways?"

That brainstorm led Passamonte Green to develop Luminous Terrain, an outdoor interactive lighting experience. With Dan Corson's blessing, she reassembled the teams from Bandit and Beaudry Interactive, two companies with whom Visual Terrain has collaborated frequently. Leveraging advances in lighting and interactive technology since 2012, Luminous Terrain is a self-contained, fully autonomous lighting experience.

Luminous Terrain maintains many of the features of "Rays," while advancing the level of play thanks to new technology, better lighting fixtures, and reflection on the implementation of the experience over the years it was operating.

"The beauty of Rays and the beauty of Luminous Terrain is that the technology gets out of the way," said John Jenkinson, Director of Integration for Bandit Lites. "From an integrator's perspective, the less you read technology and the more you read a game, that was the coolest thing about Rays. If we do our jobs well, as a team, it's completely transparent."

Exploring a Luminous Terrain

"What might look like playful, spontaneous illumination is actually a carefully orchestrated blend of sensing technologies, adaptive algorithms, real-time control systems and flexible lighting designs all working together," said David Beaudry, Principal and Founder of Beaudry Interactive. "Luminous Terrain came about through extraordinary collaborations. Our team's passion for interactive design and guest empowerment dovetails with Visual Terrain's gift for storytelling through light. The result is a living canvas of light, a space where invisible technology empowers guests to become artists of light, shaping the story through their very presence."

During the development of Luminous Terrain, different concepts were considered, but ultimately, the team decided on a four-sided 12'x12' truss structure with 14 moving lights as the first priority. Equipment support is provided by a secure Mobile Control Center that houses the electronics and provides a place for electrical terminations from the existing infrastructure.

The team designed 12 games to be a part of the Luminous Terrain experience while anticipating that clients might have their own ideas, especially when integrating the system with existing IP. "It was critical to us," said Passamonte Green, "to be able to support the ideas and branding of any clients. With Beaudry Interactive as a core part of the creative team, we are able to offer any custom and proprietary programming needed. We can really customize any installation to provide support not just for creative concepts and varying game play, but also branding and IP support for wherever the installation might go."

She continued, "We also have the ability to add sounds or music to the experience, or it can be completely silent. What's most important is that we've designed the play to be intuitive, so that no spoken or text instructions are needed. As soon as someone enters the space, Luminous Terrain becomes aware of them and can begin to interact, 'suggesting' the mode of play to engage the guest."

This rendering of Luminous Terrain shows a Light Pinball game in action. *Image courtesy of Visual Terrain*



As the system started coming together, mockups were conducted at Visual Terrain's facility in Santa Clarita, California and Beaudry Interactive's headquarters in nearby North Hollywood. The team quickly realized that scalability would allow for more flexibility in the types of places where Luminous Terrain could operate.

"Our first impulse was to create something that could more effectively replicate the scope and functionality of 'Rays,'" said Passamonte Green. "But realizing that not every client has a five-acre space to play with, we considered how the experience could work in smaller areas – and larger ones, too."

The results of that process were: 1) to design a linear "goalpost" version, to be able to create an experience that follows a set path, rather than the free-form playing-field area supported by the four-sided version; and 2) to design a mini version that had just three moving lights and could be put into areas where less space is available for play. The mini version in particular lowered the barrier to entry for smaller clients, or those who might first want to test the market before committing to a full system.

Thinking inside the box

The team also designed an indoor version. "The format of 'Rays' had initially led us to conceive Luminous Terrain as exclusively an outdoor interactive experience," said Passamonte Green. Although that is the design ideal, we realized that it is also well-suited for certain indoor environments, such as ice rinks, arenas, and pop-up experiences. The types of games and play might have to be adjusted, but being indoors actually frees us up to not have to use weatherproof equipment, and we can also move the control center to an equipment closet on site."

Now conceptually proven, Luminous Terrain is seeking its first installation. "We can imagine it being installed in theme parks, aquariums, music festivals, city parks, arenas, and even large interior building spaces," Passamonte Green said. "The interactivity can be dialed up to full-on play mode or dialed down to be more reflective and subtly interactive, for, say, a hotel lobby or airport terminal."

Valeria Beaudry, Principal of Beaudry Interactive, said, "To me, Luminous Terrain is all about possibility – the way it can turn any space, from theme parks to public plazas, into a living landscape of light, transforming passive presence into playful participation and simple curiosity into moments of genuine connection." •



David Green is COO and President of lighting design firm Visual Terrain, Inc. He has 40 years of experience in managing and delivering large and small development projects, including user experience design, creative and technical writing, theme parks, film, website producing, television and animation support, software development, information architecture, project management, public relations and photography. David holds nine U.S. patents for user interface design and is a frequent contributor to InPark.



The Linear version of Luminous Terrain uses a set of goalposts, that can be arranged to provide a 20'x50' area of activation. *Image courtesy of Visual Terrain*



Grand and intimate

SimEx-Iwerks' Vision 360™ wraps guests in immersive storytelling

interview by Martin Palicki

SimEx-Iwerks has spent decades at the forefront of cinematic attractions, creating shared experiences that blend storytelling, technology, and sensory impact. With the debut of Vision 360™, the company is expanding its reach, offering operators a turnkey, flexible, high-impact immersive environment designed to engage guests in a new way. The 360-degree LED room surrounds visitors with vivid imagery, spatial audio, and subtle effects, encouraging movement and exploration.

We spoke with Kate Magnusson, Vice President of Marketing & Partnerships for SimEx-Iwerks about how Vision 360 fits into the company's portfolio, potential applications and how the company is expanding in other ways.

What is Vision 360 and what makes it unique?

Vision 360 is a full LED room wrapping guests with stunning imagery. There are no seats, so people can move around, look in every direction, and share the experience together. We have incorporated audio cues and subtle effects that add to beautifully choreographed shows that feel both grand and intimate at the same time. For our zoo and aquarium partners, it is a chance to bring guests closer to animals in new ways, capturing moments and behaviors that can deepen their visit. We want guests to feel that they are standing in the Serengeti, as an example, to really experience what is happening all around you.

Can you elaborate more on how it can be simultaneously grand and intimate?

We designed the space to create a very intimate experience while ensuring a solid throughput for venues.

VISION 360™



Kate Magnusson, Vice President of Marketing & Partnerships

Top: For zoo and aquarium applications, once inside Vision 360™ guests will be surrounded by the world of animals and experience their habitats up close. *All images courtesy of SimEx-Iwerks*



Vision 360™ can be delivered as a stand alone building or custom designed into existing spaces.

The imagery will be close and impactful. At the same time, the 13-foot-tall LED walls and ceiling create big, cinematic moments. When paired with well-choreographed, life-size or larger-than-life content, it creates a powerful sense of scale and emotional connection.

What inspired the creation of Vision 360?

We wanted to create an immersive experience that delivers a unique and powerful moment, something guests cannot stop talking about afterward. We imagined families and friends experiencing it together, kids tugging on their parents' sleeves in awe. We also wanted to tell stories in a new way. Our shows will not have narration; they are visually driven experiences that pull you in through the content itself.

How does it differ from other immersive theaters?

Most immersive theaters, including our own Immersion Theater, are seated experiences built around a projected main screen. They are story-driven, adventure-style shows with sensory effects, perfect for broad family audiences. With Vision 360, it is less about watching a show and more about being part of the moment.

What type or size of venues is Vision 360 designed for?

We designed the attraction to be flexible. Many venues will offer Vision 360 as an add-on within their park or museum, activating an existing footprint and plugging into current ticketing and operations. That said, it can also be a standalone attraction as a signature draw.

You mention zoo installs, but what other locations do you see it fitting into?

We are launching in the zoo and aquarium market. But Vision 360 is great for a variety of locations using a wide range of content, from space to weather to gaming environments and beyond.

What logistical considerations should operators think about?

As with any attraction, location is key. We can design into an existing space or deliver a building. This allows us to customize how the attraction works within a space to maximize visibility. Our delivery is turnkey, with limited site preparation required and with proven durability.

How did you design the experience to appeal across age groups?

We wanted Vision 360 to feel visually impressive for everyone. The pacing is intentional, combining visual and audio cues to keep audiences engaged. The shows balance big, impactful moments with smaller details, so guests can discover something new no matter where they stand.

How does Vision 360 fit into your overall product lineup?

Our focus has always been cinematic attractions, and we have leaned more into creating immersive environments. Vision 360 complements our Immersion Theater and FlyRide. Vision 360 is a flexible, stand-and-move experience; Immersion Theater is a proven performer that delivers seated 3D with effects; FlyRide is our flying theater. Together, they offer a range of guest experiences for different footprints and price points.

Beyond Vision 360, what else is SimEx-Iwerks working on?

We have developed our next generation 4D Theater called Immersion Theater. We've included wider screens, side-wall imagery, upgraded projection or LED, in-seat effects, and robust control systems that streamline operations. On the content side, we're curating and creating titles designed to maximize each technology and provide that experience that guests can't get at home. We will be announcing two Immersion Theater locations leading up to the IAAPA Expo in Orlando.

How are you making your experiences more accessible?

We look for ways to go beyond what is required. A recent project with Morgan's Wonderland in San Antonio inspired us to do more. We developed motion platforms for mobility devices. In addition, we are adding language translation to our captioning devices in 2026 and have incorporated inductive loop support for hearing aids. We also offer sensory-friendly versions of shows for special events or scheduled times. Vision 360, in particular, requires no glasses or headsets, and its open floor plan welcomes wheelchairs and mobility devices.

Based on Vision 360 and overall growth, where is SimEx-Iwerks headed?

We will continue to innovate cinematic experiences, add great content, and grow our nature-based experiences that reconnect guests with the outdoors. Our goal is to deliver turnkey, reliable attractions that appeal to broad audiences and inspire repeat visitation.

How can people get more information?

Visit us at IAAPA Expo in Orlando, Booth #1652 or reach out to hello@simex-iwerks.com. Let's talk about bringing a Vision 360 attraction to your venue! •



Engineering meets immersion

Simtec Systems and The VOID collaborate on a new, compact dark ride attraction model

by Martin Palicki and Judith Rubin



The VOID overlays interactive physical sets with virtual worlds. *Photo courtesy of The VOID*

Drawing on both companies' strengths, Simtec Systems and The VOID are working on a new attraction platform that pairs Simtec's motion-base engineering with The VOID's immersive premium content and sensory design. The goal is to provide compact, versatile, immersive attractions for operators who want to deliver a layered experience to guests but don't have the real estate or capital expenditure for a multi-scene, high-capacity ride. This collaboration promises to package high-quality motion and environmental storytelling into a smaller, serviceable footprint.

Simtec Systems is well respected in the industry. The German engineering firm has spent decades building motion bases and simulation systems that power attractions around the world. From 2DOF platforms to large-scale motion theaters, its reputation rests on reliable hardware, safety redundancies, and the kind of service support that operators rely on.

The VOID, meanwhile, built its brand in the mid-2010s pioneering premium immersive, location-based experiences that combined VR visuals with practical sets and tactile environmental effects. While the earlier ventures of this U.S.-based innovator took the form of stand-alone entertainment venues, its core strength has always been in creating multisensory presence – making guests feel like they've stepped inside the story, not just observed it on a screen.

Both companies understand the attraction business, and both bring seasoned leadership to the table. Alexander Bresinsky, Director of Business Development; Andreas Stickel, CEO; and Mike Haimson, VP of North American Operations, anchor the effort on the Simtec side. At The VOID, Co-Founder and Chief Creative Officer Curtis Hickman and Head of Experience Development Jason Howard are shaping how the storytelling, media, and physical environment come together to deliver a constant motion experiences that goes beyond the limitations of a stationary simulator.

A straightforward ride model

The concept is deliberately straightforward: a compact, motion-based experience and platform that can be deployed in spaces smaller than a traditional show building. Guests will board a Simtec vehicle designed to deliver precise, sustained and reliable motion tuned for comfort as well as impact.

Integral to the story and experience is the VOID's multimedia content and effects package: headset-based visual media, sound design, targeted haptics, and environmental elements like wind, heat, or scent. Because the show environment is virtual, the ride can be adapted for different stories. The platform is being built with content flexibility in mind. Operators will be able to rotate titles from one ride vehicle to the next without dismantling the infrastructure.



Andres Stickel, CEO, Simtec Systems



Alexander Bresinsky, Director of Business Development, Simtec Systems



Mike Haimson, VP of North American Operations, Simtec Systems



Curtis Hickman, Co-Founder & CCO, The VOID



Jason Howard, Head of Experience Development, The VOID



Guests enjoy a Simtec Systems FunRide® Interactive Dark Ride System. *Photo courtesy of Simtec Systems*

"We designed this to be realistic about what operators need: efficient loading, reliable vehicles, and content that can be constantly reimagined without a construction crew," said Hickman. "Best of all, it uses state of the art illusion technology to truly immerse guests in seemingly endless worlds."

A savvy marriage of media and motion

The strength of this collaboration comes not just from the individual capabilities and expertise of each company and how well they align, but also from field experience and understanding of markets, audiences and best practices.

The team is well-positioned to avoid one of the most common pitfalls in ride development: bolting effects and media onto an engineering package after the fact. Instead, motion, sound, story and tactile elements are being designed in tandem.

"We're working toward a system that isn't just technically sound, but authored from the inside out to make guests feel like they are part of the story" said Howard. "When you design motion and effects as part of the storytelling language, everything feels more natural."

Space, capacity and refresh

This attraction model is positioned somewhere between a simple simulator and a full-scale themed attraction, aiming for a sweet spot of high impact with moderate build requirements. Cruise lines, regional parks, FECs, urban entertainment centers and mixed-use developments are likely markets; the ride's footprint is small enough to fit in unconventional spaces, and its refreshable content could align with seasonal itineraries.

"Basically, we expect to serve operators looking to add a premium upcharge attraction with lower operational complexity than a full dark ride," says Haimson. "Many operators are eager for attractions that can



A Simtec Systems technician prepares a large 6DOF motion base for factory testing. *Photo courtesy of Simtec Systems*



The final assembly and dark ride test track at Simtec Systems. *Photo courtesy of Simtec Systems*



Guests don headsets and haptic vests before their journey into The VOID. *Photo courtesy of The VOID*

be big enough for strong guest appeal and attendance impact – even a headliner attraction – but not so big that they're out of reach. Our platform is meant to live in that middle ground. It can transform a previously under-utilized zone, and with modular content it encourages repeat visits."

Since the platform is built to support multiple shows over its lifetime. Swapping media packages while retaining the core vehicle and effect infrastructure helps make long-term investment more sustainable. For operators, that means the attraction can change regularly without rebuilding from scratch.

Operational realities and a measured rollout

The companies are also clear about the operational realities. Motion systems require consistent maintenance, spare parts planning, and trained staff. Effects systems need regular calibration and checks to keep the show consistent.

Since headsets are used for visual delivery, operational planning around distribution, sanitization, and turnaround for the devices will be critical. "Operators know there's no such thing as a maintenance-free ride," said Bresinsky. "We're designing for serviceability from the start, but good operations are always going to matter."

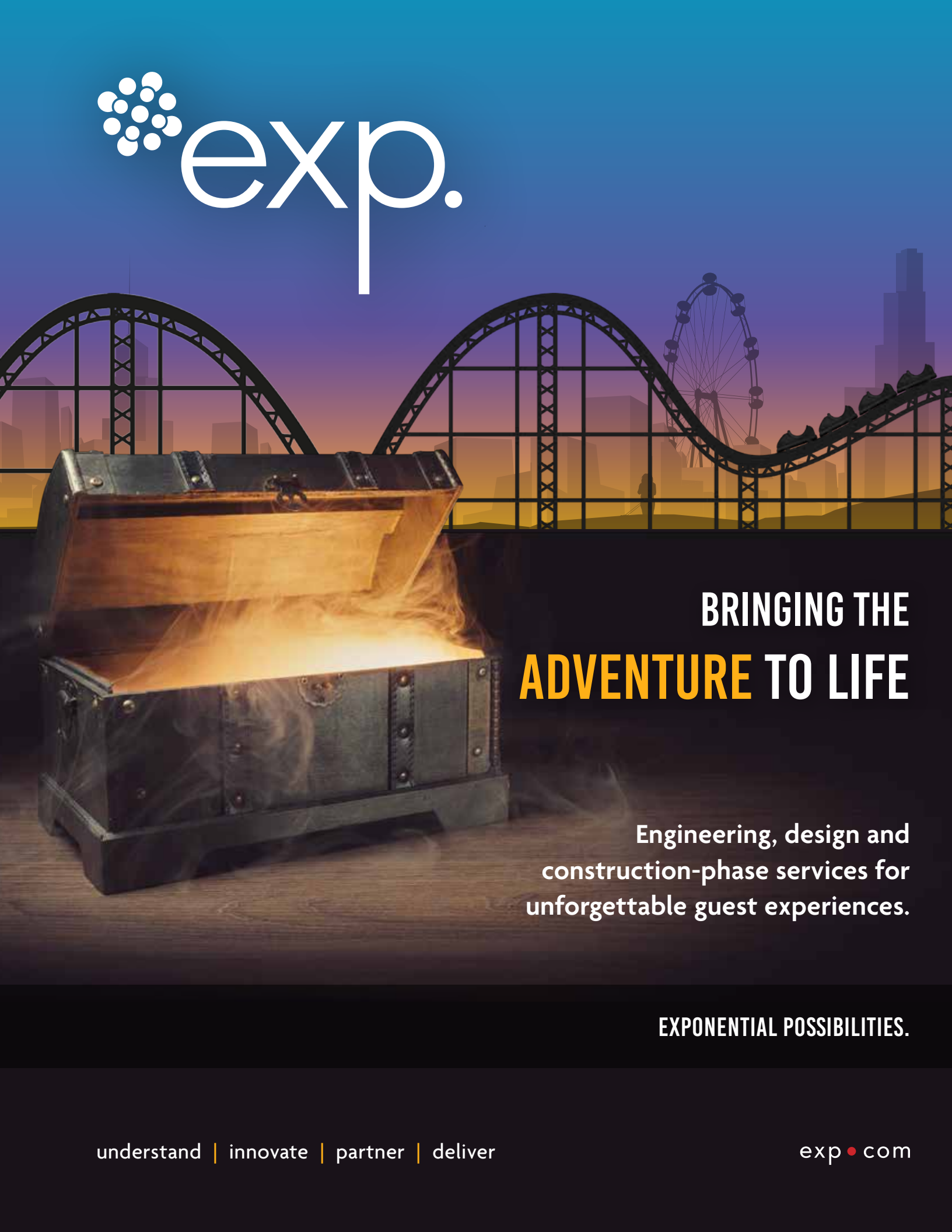
Simtec and The VOID plan to start with pilot installations. These will allow the teams to test comfort profiles, dispatch intervals, show timing, and daily cycle counts in real-world conditions. Early results will guide refinements before broader deployment.

"Our partnership brings together complementary strengths and a pragmatic plan, but success will hinge on the nitty-gritty: things like reliable hardware uptime and speedy guest processing," said Stickel.

The partnership and concept bring together engineering and experience design with the kind of modular thinking that increasingly defines the modern attractions landscape and benefits operators with more flexible investment strategies.

Instead of locking into a single ride concept for a decade, each ride vehicle can dynamically show a different experience encouraging repeatability or taking advantage of seasonal content refreshes or IP opportunities. Said Stickel, "This will be a stable, repeatable product." •

To learn more, please visit the Simtec Systems booth at the IAAPA Expo, #1354, or email Info@Simtec-Americas.com.


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The art of creative executive producing

How ImagineLab Studios fills the middleware gap between creative vision and opening day

interview by Martin Palicki

Edward Hodge has spent more than two decades shaping immersive experiences and live events for some of the world's biggest brands and entertainment companies. His career has included leadership roles at BRC and Disney, among others. After years of leading creative and production efforts, he saw an industry gap widening. The pandemic accelerated reorganization within creative companies, and the professional layer of producers, creative directors, and integrators who ensure strategy and execution are top of mind was shrinking. Hodge saw an opportunity. He founded ImagineLab Studios to bridge creative vision with business reality – creating experiences that thrill guests while meeting client goals.

Hodge and his team are what he calls "creative middleware," a flexible network of experienced talent focused on story-driven craft, entertainment strategy, and production execution.

What is ImagineLab Studios?

ImagineLab Studios is built on a simple premise: the best projects happen when the right people are in the room at the right time. We're a group of experienced producers, creative directors, designers, and show directors devoted to helping clients shape and deliver immersive experiences. We work fractionally and collaboratively, advocating for the project and the guest – from that first spark of an idea through to opening day. Most importantly, we bring a strong point of view, protect the creative, and never lose sight of business goals.

What marketplace realities are you addressing?

What our industry has slowly forgotten is, frankly, the art of executive producing.

Themed entertainment's roots are in theater, but the business was born from a film studio. As projects have scaled to cost potentially billions of dollars, the process has become dominated by design and construction. We're often missing the strong executive producing team whose job it is to execute the vision, both fiscally and creatively. We should be building business models that match a creative brief before we even think about Blue-Sky or Concept development. A strong EP team can help you strategically plan the project from all sides before too much has been spent.

Beyond that, we've seen three shifts. First, there's the middleware gap. After the pandemic, a lot of the doers who make these projects happen either moved up into leadership roles or left the industry altogether. That expertise is needed from design to opening day. We're devoted to providing it.

Second, clients need flexible ways of working. Not every project justifies hiring a large studio, but teams still need senior creative leadership. We meet them where they are, whether that's early concept development, production support, or turning around a project that's lost its way.

Third, many companies can't add headcount or a full team, but we can solve that. We're experienced, story-driven professionals who provide services as needed, without the overhead.

You have said that ImagineLab Studios is focused on "story-driven craft, strategy, and collaboration." What does that mean?

Story and execution are never separate. Every decision serves both the guest's emotional journey and the project's business goals. The best experiences happen when a great story drives every element, from design to operations to the smallest details. When producers, designers, and contractors are all laser-focused on creating memorable emotional moments, that's when projects succeed.

What does fractional working look like in practice?

It might start with me embedded with a client team a few days a week. It might be a high powered pod – creative, producer, and technical leads – that plugs into an existing organization. We can line produce, show doctor, innovate, or lead creative direction. The throughline is our passionate advocacy for the project and protecting the original creative intent.



Edward Hodge

Clients appreciate the thought partnership on the front end. In times of economic uncertainty, they can take on leaner, more strategic steps rather than diving all in with one large firm. We cast based on the creative and operational needs, so clients get low overhead tailored specifically for them.

Are you a studio or a network?

We are both! I know it sounds like the easy answer but think of ImagineLab as the front door. Inside is a group of trusted individuals and small companies. We keep agreed rate cards with partners so we can scale quickly. We're designed to be nimble – we can serve as a single umbrella when that simplifies procurement, but we remain transparent about who's doing the work.

When one firm tries to do everything in-house, it can drift toward a "house style." We match the right people to each project and put them directly with the client. That keeps things fresh and innovative. And we're flexible enough to recommend outside specialists when that's the right call. It's all about advocating for the project and the guest experience.

What types of projects does ImagineLab Studios work on?

We're focused on three core areas: shows and attractions, immersive brand and sports experiences, and immersive destinations. We're at our best when clients want to do things differently – when they're ready to innovate, take on unprecedented projects, or enhance existing offerings. If you're an executive looking for "in-house" style creative firepower without adding full-time staff, that's what we're built for.

How do you approach partnerships?

We love partnerships. Maybe we're leading, maybe we're supporting, but at our core we love collaborating with architects, feasibility consultants, media producers, technologists, fabricators and operations. Our job is to advocate for the experience and client goals, not dominate the process.

What is your philosophy and where did it come from?

It came from doing the work, period. The people I collaborate with have one thing in common – we are all doers and we all want to create profitable, emotional experiences. Every successful project has clear communication, deep trust between teams, and someone who can translate between creative vision and operational reality.

Story and strategy are inseparable. Creating a memorable guest experience is everything. Protecting a project's emotional center requires creative conviction, the ability to navigate complex organizations, understanding company culture, speaking their language, and revealing possibilities they didn't know existed. That's what we're good at.

In the dichotomy of left-brain and right-brain thinking, where are you?

I live in the middle. My heroes are people like Steven Spielberg and Kathleen Kennedy, or Bob Iger and Ed Catmull – astonishing creative dynamos and brilliant business people who never lose sight of the "Why." I believe the ability to toggle between creative and technical is key to successful projects.

Guests want experiences that feel personal, emotional, and shareable. They want the big thrill and the grace notes – the humor, the hidden surprises – that elevate a fun experience to something memorable. Operators want sustainable, smart operations. The best projects balance emotional storytelling with practical execution that leaves room for the little details. I build teams who get both sides. The creative heart and the nuts-and-bolts reality. Those are the people who turn good ideas into something magical.

Look, we're all kids at heart. We all remember the first time we felt the thrill of a great experience. By age ten, I was already 'backward engineering' those moments to figure out how they were done!

Sure, today's challenges are greater than ever, the stakes are higher and the technology is more advanced. But it's still simply about that rush of physical and psychological elation, that endorphin surge, that wave of pleasure and exhilaration. That's the feeling we're after. That rush of pure joy. And honestly, I can't think of a better job. •



At the park and on the field

Image Engineering's acquisition of TASC helps expand the possibilities of both live and themed entertainment

by Martin Palicki

Towering infernos of fire can regularly be seen inside some of the most intense theme park attractions as well as in pro-sport stadiums as players take to the field. Until recently, though, they've been created by very different companies. The Attractions Services Company (TASC), under the leadership of Ron Griffin, has pioneered effects like those for theme parks around the world since 1995. Image Engineering, on the other hand, has been producing live events, pyrotechnics and large-scale sports productions since 1998. Thanks to a recent acquisition, the two experts in their field will bring their combined skills to the field, and to the growing world of themed entertainment.

Image Engineering's growth and evolution

Founded by brothers John, Joe, and Andy Suehle, Image Engineering specialized in lasers and lighting in its early years, growing steadily through the 2000s. Today, the company sports a team of more than 65 full-time employees and operates from a 60,000 square-foot headquarters in Baltimore with satellite offices in Las Vegas and at the Rock Lititz campus in Pennsylvania. The company's work can be seen in everything from touring productions and sporting events to architectural lighting installations that blend art and technology.

"Our roots are in live entertainment and sports, and that shaped how we built the company," says Image Engineering President Joe Suehle. "But over the years we've evolved to meet the needs of themed entertainment, and in some ways, themed entertainment has also expanded to need the services we offer."

That's what led the company to devote resources to supporting the themed entertainment market, which they internally refer to as permanent installations. While both temporary events and permanent installations run on parallel tracks, utilizing many of the same effects and equipment, there are important distinctions between the two.

A player introduction installation including Image Engineering manufactured Vector Beam lasers. *Photo Credit: The Philadelphia Eagles*



Ron Griffin, Founder, TASC



Joe Suehle, President, Image Engineering



Ian Bottiglieri, VP of Operations, Image Engineering

Permanent installs typically require a much longer design and build process but also benefit from a workflow that demands continual innovation. Live events stand to benefit from that creative pipeline. Additionally, the real-world limitations of temporary installations can provide information that helps make permanent projects more efficient. It's a symbiosis that led Image Engineering's Vice President of Operations Ian Bottiglieri to investigate moving the company in that direction. "I attended the first IAAPA Expo after the pandemic and saw firsthand how well aligned we were to serve this market," explains Bottiglieri.

One of Image's first projects in the industry was working on a major theme park operator's nighttime spectacular. They were brought in for their deep knowledge in specialized flame systems, but because of their relative newness to the market, the operator had them contracted under one of their trusted vendors, TASC. It was a chance connection that would significantly alter the paths of both companies.

TASC's legacy of engineering and effects

While Image Engineering was busy expanding its presence in live events and sports, TASC was building its reputation in theme parks. Founded and led by Ron Griffin, TASC became known around the globe as a skilled resource for theme park operators needing special effects, motion platforms, ride vehicles, show action equipment, flame and water effects, control systems and more. Since 1995, Griffin and his business partner, Melissa Townsend, have been familiar figures in the industry. TASC's many projects for Universal Studios parks, starting with work on pioneering attractions such as Jaws and Twister, continued with the company providing many of the major flame effects for Universal Islands of Adventure, Universal Studios Japan and Universal Studios Singapore.

TASC quickly earned a reputation as a trailblazer in the industry, establishing a capable team to serve their formidable list of clients through specialization in nighttime shows, dark rides, and complex multimedia attractions. "We've always had a great staff," says Griffin. "Many people came up through apprenticeships here and went on to leadership roles throughout the industry. That legacy of training and knowledge sharing is something I've always valued."

TASC set up a facility in Valencia, California and developed full vertical integration over the years: in-house design, fabrication, and testing. The site includes machining, welding, woodwork, cabinet fabrication, and outdoor areas for testing large flame and water systems.

Finding the right partner

When the two companies met on that joint project in 2023, the timing couldn't have been more perfect. Griffin



TASC helped create Tess the 50-foot woman for the California Science Center in 1996, a larger-than-life human body simulator designed to demonstrate the inner workings of the human body. TASC developed and engineered the simulator. *Photo Credit: TASC*

had been thinking about succession planning for TASC and Image Engineering was considering ways to quickly scale up their presence in themed entertainment.

"That project was where I got to know Image Engineering, and I really liked how they operated," says Griffin. A key factor was their innovative approach to flame systems that they had perfected over the years. "Image's expertise with alcohol-based fire solutions was impressive," Griffin says. "It offered real advantages that I knew would be a benefit to our existing clients."

For Image Engineering, exploring an acquisition also made sense. "TASC was already a trusted partner in permanent installations, with a great reputation and strong client base," says Suehle. "They were known for innovation, reliability and safety, and that aligned perfectly with how we wanted to grow."

Bottiglieri adds that there were additional synergies. "Image has deep expertise in permitting, compliance, and large-scale touring systems. TASC brings fabrication, welding, and permanent effects. Together, we cover the spectrum: temporary and permanent, in both live and themed entertainment. That's powerful for clients."



Production of a nighttime game which includes lighting, pyro & lasers to create a dynamic environment. *Photo Credit: The Kansas City Chiefs*



A Fire Snake flame unit on articulating trusses creates a moving flame stage set in a project for Image SFX that was designed/engineered by Image Engineering. *Photo Credit: Image Engineering*

Integrating operations and people

Bringing two companies together involves more than adding capabilities, it requires aligning workflows and people. For Bottiglieri, that's one of the core challenges in a merger. "It's about ensuring the two companies work together as one, without losing the strengths that made them successful individually," he says.

Image's Baltimore headquarters and TASC's Valencia facility complement one another with their East Coast and West Coast locations. Baltimore provides large-scale engineering and event support, while Valencia adds fabrication strength, including advanced welding programs overseen by certified inspectors. "Our weld shop has been one of the most qualified in the industry," says Griffin. "That's something that will now benefit Image as well."

On the cultural side, both firms share a history of long-tenured staff and career



The massive art installation at Beyond Wonderland in San Francisco Bay Area (2013) included a 40-foot animated caterpillar that waved its legs and observed the crowd with LED eyes. The caterpillar even smoked a hookah, referencing its inspiration from Lewis Carroll's "Alice's Adventures in Wonderland." *Photo Credit: TASC*

development. "Image, like TASC, has employees who have been with us for decades," says Suehle. "That continuity and depth of knowledge is part of what is making the integration work so smoothly."

While Griffin has plans to retire eventually and Townsend retired in 2025, he's committed to ensuring the transition is smooth and will remain connected in an advisory capacity as needed. Meanwhile, Griffin's new title, "Executive Director of Neat Stuff," is an affectionate nod to legendary Disney Imagineer Roger Broggie, who was known for commenting on how "neat" the things in the TASC shop were. Broggie finished his long and distinguished career working alongside Griffin at TASC building the neat stuff and passing on his wealth of experience and knowledge.

Expanding client offerings and markets

The acquisition broadens the combined company's capabilities considerably. "Existing TASC clients will now have access to a wider range of products and expertise," says Griffin. "And Image's marketing strength will help us reach markets we didn't pursue aggressively before."

Casinos, museums, and live venues are prime examples. "Historically, most of TASC's work came through word of mouth," Griffin admits. "Now, with Image's stronger marketing, I think you'll see us doing more in those sectors."

Major theme parks remain central, but both companies also see opportunities in regional parks as well. "The opening of Epic Universe has raised the bar in many ways, and that pushes every park to up its game," Griffin says. "We're also seeing regional parks invest more in themed experiences, not just rides."

Bottiglieri adds that the combined company is already seeing benefits. "There are projects in the pipeline we couldn't have pursued alone. Together, we're well positioned to capture that demand."

For Suehle, the merger is about preparing Image Engineering for the long term. "We want to be seen as a full-spectrum partner," he says. "Whether it's a concert tour, a stadium, a theme park, or a casino, we can bring the right people and technology."

The Image Engineering team also sees opportunity for growth outside of North America, where most of its clients have been based. "There's clearly growing demand for immersive experiences in places like the Middle East and Asia," says Bottiglieri. "With TASC on board, we're better positioned to deliver projects internationally." •

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Jora Vision helped deliver the Smurfs dark ride at Holiday Park in Germany. *All photos courtesy of Jora Vision*

The dawn of the era of the dark ride

Jora Vision's Robin van der Want on how technology and a demand for immersive storytelling are creating renewed interest in dark ride attractions

interview by Martin Palicki

In the world of themed entertainment, there's nothing quite like a dark ride. Over the decades, the format has gone through several revivals, each time propelled by new technologies and creative ambition. Today, a new era is unfolding, one marked by better tools, greater affordability, the increased ability to work within smaller footprints, and strong demand from parks and attractions of all sizes from around the world. To understand what sets this moment apart, we turned to Robin van der Want, Project Director & Creative Producer at Jora Vision. Based in the Netherlands, Jora Vision has delivered attractions around the world for more than three decades and understands firsthand the dynamics and importance of this latest chapter in the evolution of dark rides.

What's driving the current shift toward dark rides and how are guest expectations changing?

Visitors are looking for more than thrills. In particular, families want to share experiences together, and dark rides provide that opportunity. In today's world, where people value time spent together, these attractions allow guests of all ages to enjoy immersive environments and storytelling. It's not about moving away from coasters but about filling a gap with experiences that combine story, characters, and atmosphere. Influences from streaming content and gaming also play a role. Younger audiences expect the imaginative, fully realized worlds they know from media – especially gaming – to be brought to life in real environments, which dark rides are perfectly positioned to do.



Jora Vision's Robin van der Want with Snorri at Europa-Park's Snorri-Tourren dark ride.

Why do you think the rise of dark rides is more than just a passing trend?

Dark rides meet multiple long-term needs. Operationally, they are reliable in all weather conditions and not limited by heat, cold or thunderstorms like outdoor rides. From a business perspective, they broaden the audience beyond thrill seekers and attract families, who often spend more time and money in the park. And creatively, dark rides are the ideal vehicle for storytelling, allowing parks to better tell the stories of their brand or mascot. It's very difficult to tell a complete story on a traditional roller coaster, but dark rides allow worlds and characters to fully unfold.

Dark rides used to be primarily found at major destination parks. Now, regional parks are investing in them as well. What do you think accounts for this shift?

Technology has become more reliable and more affordable. Advances in AV, lighting, and ride systems mean high-quality experiences are no longer limited to the largest budgets. Newer vehicles and tech are allowing dark rides to fit into smaller footprints. This means many regional parks can consider reusing existing buildings for dark rides, which keeps costs manageable. At Jora Vision, we've seen strong growth in retrofit projects, where older facilities are repurposed into entirely new attractions.

In what other ways has technology changed the game for dark ride development?

We're seeing new ride vehicle manufacturers enter the market, which increases competition and innovation. This means more dynamic vehicles at affordable prices. I think we will see opportunities to add thrill elements to dark rides without the scale of a coaster. On the media side, LED screens have become thinner, more versatile, and more cost-effective. They can fit into smaller spaces, be curved or produced in unusual shapes, and last longer with less maintenance than projectors. Projection still has advantages, especially for mapping onto physical sets, but the trend is shifting toward LEDs as they open new creative opportunities.

What role should media play compared to physical sets?

The best dark rides blur the line between the two. The ideal is when guests question whether they are looking at a physical set piece or media. Media should be integrated as an enhancement, not as the sole environment. When done right, media adds movement, transformation, and flexibility, while physical sets ground the story and provide tangible realism. The most powerful experiences are when the two are layered so seamlessly that visitors can't tell them apart.

What is Jora Vision's role in dark ride design?

Over the years we've built expertise not only in creative development and fabrication, but also in project management and technical integration. A dark ride involves many disciplines (vehicles, media, special effects, audio, lighting, show control) and they all need to come together in one cohesive plan. We often serve as main contractor, managing the entire process from concept to opening. That includes early budgeting, responsibility matrices, and integration of show elements. Clients increasingly recognize that this holistic role is essential for success, and it's an area where we excel.



An artist works on fine details for a dragon headed to one of Jora Vision's installations.

How important is interactivity and gamification in today's dark rides?

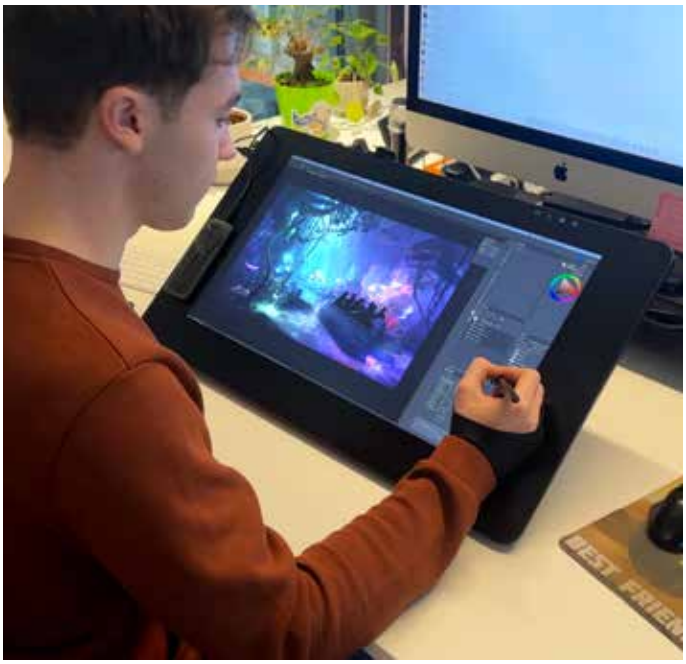
Interactivity can be powerful, but it's not always necessary. The key is determining whether it adds to the experience. Sometimes interactivity is framed as shooting games, but it can also mean achieving collective goals or allowing guests to influence the environment. Gamification adds another layer. It can enhance replayability or create new opportunities such as special event modes allowing for tournament competition during a corporate buy-out, for example. But not every dark ride needs interactivity. Some of the most memorable experiences come simply from immersion and storytelling.

How do you balance guest experience with throughput and operations?

We begin with the practical foundations: track layout, queuing, loading, safety, and capacity. Those parameters shape the creative work, not the other way around. For example, we design buffer zones into layouts so that dispatch delays don't disrupt the flow of the ride. Accessibility is also a priority, from ADA-compatible vehicles to clear evacuation routes. By addressing operations from the start, we ensure the creative vision is sustainable and the ride is profitable in practice.



According to Jora Vision's Robin van der Want, the best dark rides blur the line between physical sets and media.



A Jora Vision designer works on a new dark ride attraction.

Which regions are driving demand for new dark rides?

The Middle East is a major growth area, with many parks planning dark-ride-heavy portfolios. At the same time, we're seeing a rise in requests from regional parks across Europe. That's significant. It shows dark rides are no longer exclusive to the largest players but are becoming part of the standard mix for parks of all sizes.

Where do you see the next creative breakthroughs coming from?

As I mentioned before, ride vehicles are evolving quickly. More compact, dynamic systems allow thrilling experiences in smaller footprints, opening the door for regional parks to offer attractions once reserved for the biggest operators. Advances in LED integration and track layouts also give designers more tools for variety and surprise. In the long term, we expect to see dark rides that combine family appeal with true thrill elements, competing head-to-head with coasters on guest excitement and ROI.

What excites you most about what's ahead?

What excites me is how we are helping make this entertainment medium more accessible for operators around the world. As dark rides become more achievable for more parks, creativity will flourish. Designers will experiment with different "recipes" of technology, story, and gameplay. We're also on the verge of dark rides that challenge coasters not just in storytelling, but in delivering thrills – all while remaining inclusive, reliable, and immersive. That combination has the power to redefine what a park's signature attraction can be. •

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Formula 1 in a Box

F1 Box opens its first venue in London, powered by Disguise

interview by Joe Kleiman

Seventy-five years ago, Formula 1 held its first championship race at the UK's Silverstone Circuit. As the premier international racing league has grown, F1, as it's known in shorthand, has sought out new activations to both captivate existing fans and entice those not familiar with the sport. These include a blockbuster feature film starring Brad Pitt, a visitor center in Las Vegas featuring a museum and themed go-cart races on an actual F1 track, a chain of racing simulator arcades, and a brand-new simulator attraction designed for smaller venues.



F1 Box in London utilizes Disguise media servers to immerses guests in the simulated world of F1 racing. *Photo by Ian Wallman for F1 Box*

Continuing the quest for new activations and platforms, F1 partnered with the concept team behind world class competitive socializing concepts including Flight Club, Putt Shack, Bounce and HIJINGO in 2022 to develop F1 Arcade, with locations in London, Birmingham and several U.S. cities (with the latest being Las Vegas). The concept – which combines multiplayer simulator racing with hospitality – builds upon existing game-driven concepts, which combine activities such as table tennis, darts, bingo, and miniature golf, with the latest technology in a festive atmosphere replete with food and drink.

F1 Box explores the F1 Arcade concept in a new format, with sole emphasis on a racing experience involving up to twelve drivers. With its first venue in London, the facility offers a comprehensive race day experience, with individual simulators interacting with a giant LED leaderboard wall, and environmental lighting and sound fully integrated with races in real time throughout the space. Key to this process was global audiovisual technology firm Disguise, which supplied 3D previsualization of the space through its Disguise Designer software and show, lighting, and media control through a Disguise EX 3+ media server.

We spoke with Gavin Williams, Chief Technology Officer of F1 Arcade to learn more about the experience and the role of Disguise on the project.

What was behind the creation of F1 Arcade?

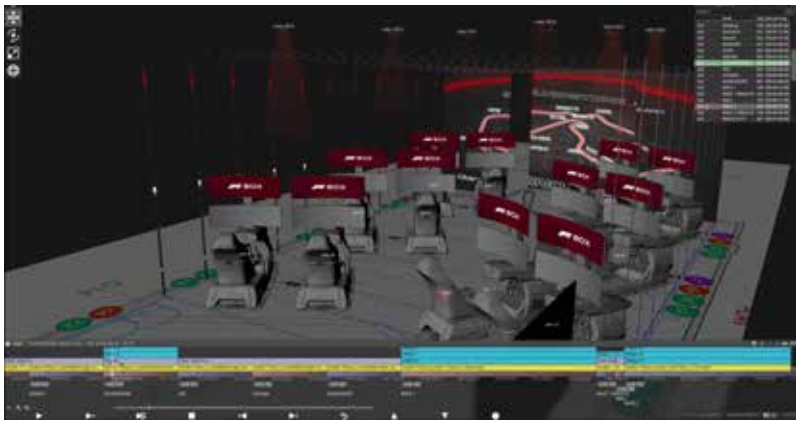


Gavin Williams

Many years ago, F1 approached us to build a racing experience that they could bring to the masses that included an extensive food and beverage component. They wanted to build something accessible and interesting for large groups of people. It needed to be based around racing for all, rather than sim racing for die hard sim racers or elite F1 fans. One way we did this was by giving guests the opportunity to select a skill level and gamify the experience by introducing a bespoke and intuitive points scoring system and custom UI to make this feel like a truly unique experience.

How does F1 Box differ from F1 Arcade?

With F1 Box, we're trying to build something like F1 Arcade, but something more immersive that attracts a broader audience. You come into F1 Box and race for a shorter period. The F1 Arcade experience takes forty-five minutes to two hours depending on



Disguise helped create pre-visualization renderings for F1 Box. *Image courtesy of F1 Box*

the group size. F1 Box is a roughly thirty-minute experience comprised of three races. It's designed to accommodate up to twelve racers, and there's no food and beverage component – it's all about the competition!

The biggest difference is that F1 Box feels like you really are fully immersed in the racing experience. There's reactive AV all around. There are three LED panels at the front of the space that show media and also act as a leaderboard during races. There's also a giant LED embedded on the wall behind the reception desk that shows post-race results. We also email results after each session to our guests.

Is there a minimum number of racers required for F1 Box?

Every spot is available to the public. We either have 10 or 20 cars on the circuit, with a mix of AI and human drivers depending on the number of people who enter a race.

How did Disguise become involved with F1 Box?

We previously worked with Disguise in a different capacity on another project and immediately saw their value in our production workflow. For F1 Box, we wanted to work with Disguise again and through the previsualization capabilities of its Designer software, we were able to make any tweaks and changes before the actual buildout. For example, the original design for the screen at the top of the attraction was floor to ceiling, wall to wall. It was amazing, but the previz process facilitated by Disguise allowed us to explore multiple screen layouts to find the best balance between cost and guest experience. The previz also allowed us to make sure the content was right and allowed us to go through multiple rounds of edits in advance. Our CEO, Adam Breeden, was able to go full throttle on creative design before even getting into the space, so anything we actually did during buildout was simply refinement.

Take us through the F1 Box experience.

Upon approach, guests see a big logo with signage and hear the roar of the attraction. After entering, the giant LED display comes into view along with all the simulators. Guests are welcome to stand in the back and watch people race. Each simulator features two ultrawide screens, one above the other.

After purchasing a ticket or checking in, guests are welcomed by David Croft, Sky Sports' F1 commentator, inviting them to take their seats. The experience is personalized. Each guest's name appears on the screen above their simulator. The lights go down, then they come up again with sound. David comes back via vocals to introduce the experience. This is followed by the process of selecting a skill level, and then the first race starts.

There is a customized introduction about each circuit with facts about it. Racers hear loud beeps around them and are immersed in lighting while hearing the roar of the engines of the cars around them. I don't want to reveal too much – people will just have to come and experience this epic showpiece in person!

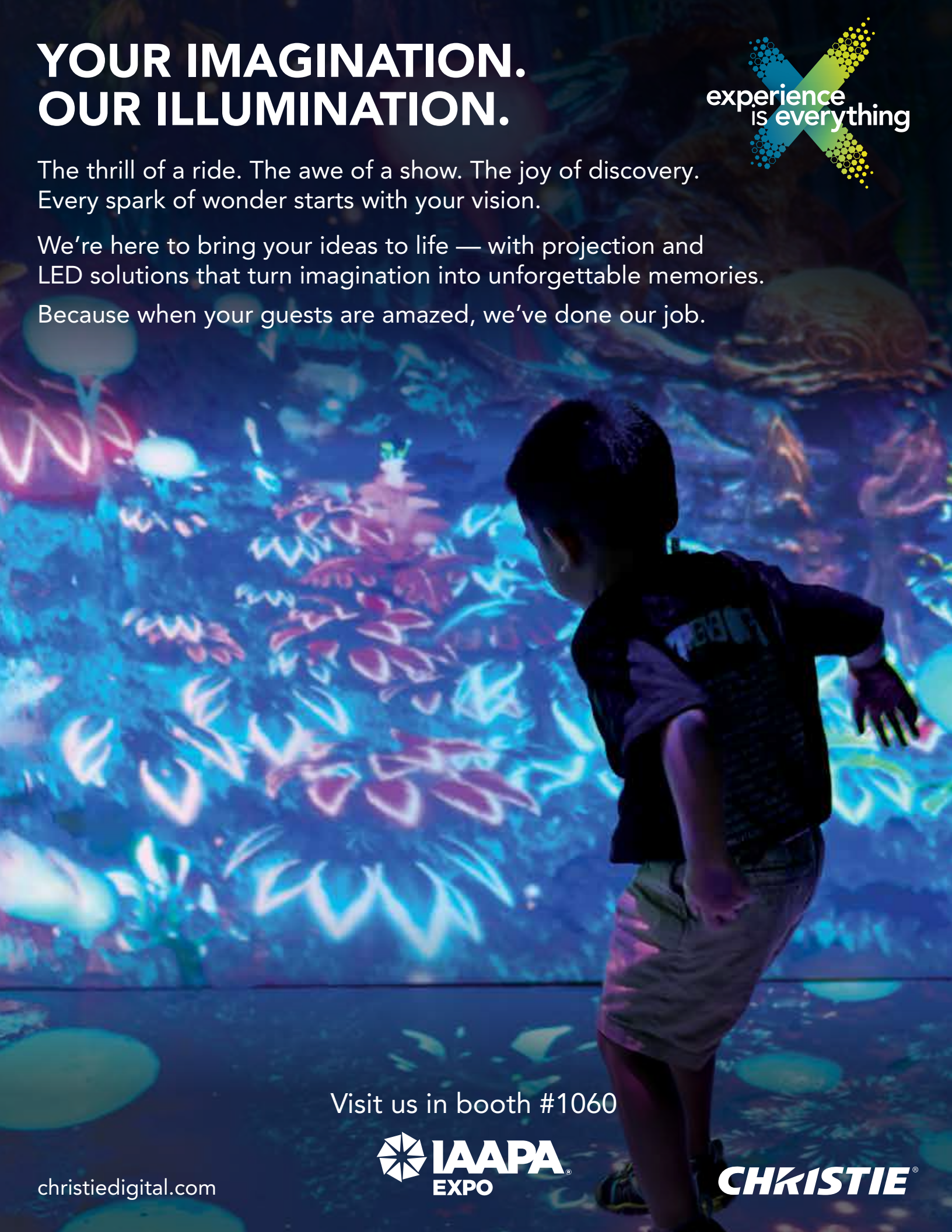
All the AV components run through Disguise, so the entire experience is perfectly synced – from the giant LED backwall to the LEDs around the portal and on the simulators themselves. Real-time data from the simulators is sent through the Disguise EX 3+ media servers to generate the final placements for the leaderboard.

You mentioned the ability to modify the gaming experience based on changes in F1 rules. Can the AV experience also be modified as needed?

F1 Arcade and F1 Box are two big concepts that are designed to be expanded. Disguise as a platform allows us to change the show files at F1 Box, and they've designed that process to be as flawless as possible. For example, in the case of a sponsor needing visibility, we can inject custom visual elements into the show to tie in with their brand.

We enjoyed working with Disguise on F1 Box; their technical team spent lots of time programming show files for us and their creative team created the leaderboard content, really going above and beyond what we expected.

You'll see the addition of more significant, dynamic, and reactive elements added over time. We're barely scratching the surface of what we can do with this space, so keep your eyes out over the next year! •


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The St. Louis Aquarium features a dynamic AV-enhanced lobby area. *All photos courtesy of Bluemedia and DreamLab*

Dream On!

Elevating human creativity with an AI-infused ecosystem, DreamLab Immersive is a bold new studio for the next era

by Judith Rubin and Martin Palicki

The former DE-ZYN Studios has a new identity as DreamLab Immersive, representing a re-engineered creative vision built for the context engineering era. "Custom generative tools have the power to amplify human imagination and the guest experience," says founder John Miceli, who has spent decades at the intersection of media creation, technology and storytelling. "The shift is less about adopting new tools and more about redefining how new creative production processes and pipeline design can benefit. These new horizons will connect imagination and innovation with how people learn, explore, react and feel."

Continuity and collaboration

DreamLab Immersive represents continuity as much as transformation. Miceli's career has been defined by reinvention and leadership, from pioneering sound design work on feature films such as *The Crow* (1994), and seminal attractions at Universal Studios parks in the 1990s, to large-scale immersive media installations for nearly 20 years with Technomedia, to founding DE-ZYN Studios in 2019, with several projects earning Thea Awards and Brass Ring honors. Some notable recent projects include the St. Louis Aquarium, NFL Superbowl Projection (2024 Las Vegas; 2025 New Orleans), Grand Hall Experience 2.0 (St. Louis), *The Tonight Show* (flexible configuration digital video building blocks) and Talladega Motor Speedway Big Bill's Open-Air Social Club.



John Miceli, Founder/ Executive Creative Director

"Our focus on elevated guest experience carries our legacy forward," says Miceli. "We have combined artistry and engineering into a unified creative process designed to elevate what's possible." Leading that vision is a team of veteran



Nathaniel Rulhman,
Founder/Chief Art Director



Phil Berard,
Founder/Chief Innovation Officer



Tracy Balsz,
Marketing/Business
Development Executive

industry innovators who bring more than 75 years of experience spanning design, media and technology integration: Miceli; Nathaniel Ruhlman, formerly of Dorian Orange; and Phil Berard, whom Miceli calls "the undisputed technical genius behind all of Technomedia's most advanced visual achievements."

DreamLab's model is firmly planted in collaboration with some of the industry's best and brightest. "We are partnering with world class design firms, architects, technical AV integrators, owners and other creative specialists," says Ruhlman. "Competitors of the past are now partners of today and tomorrow. We all bring unique talents to the table and are having the time of our lives collaborating. Incorporating generative tools like neural networking models, joined with diffusion-based AI provides extreme clarity – fully preserving details when we accelerate rendering and upscaling into our traditional production pipeline. We can leverage its tremendous potential while maintaining control and creativity. The landscape is constantly evolving and staying ahead of it is the only way to not fall behind."

A human-inspired, AI-first philosophy

Miceli describes DreamLab's approach as "Human-Centered, AI-Enhanced." It's a philosophy rooted in balance: embracing the efficiencies of artificial and synthetic intelligence to evolve both the attraction process and the resulting guest experience. "While keeping creativity, emotion, and storytelling firmly in human hands, we can create scenarios that have the ability to be non-repetitive, informative and artfully unique in real time," says Miceli. Deeper emotional connection is a significant benefit. "Generative engine-based experiences can communicate and respond to the input or actions of the guests, creating a more personal connection."

"DreamLab isn't just about exciting tools that inspire," says Miceli. "Technology is never an end in itself. It's about elevating our creative thought process to inspire broader dreaming, and seeing those ideas come to life."

Creative freedom

Miceli likens DreamLab's AI leap to the shift from analog to digital, not just in technical terms but in the concerns it has raised. He recalled how early in his career prior to Soundelux in the early 1990s, when producing soundtracks for film, theme parks and LBEs, editing meant physically slicing and splicing magnetic tape. "When sound tools and then Pro Tools came along, a lot of people said the industry was doomed and that anyone could do our jobs at home in their underwear. What in fact happened is that the industry expanded dramatically in the 1990s, and ProTools became a worldwide standard. Similarly, the right application of AI frees the creator. The work will speak for itself."

That same philosophy drives DreamLab's new model. "Generative processes are giving people more time to think creatively," says Berard. The partners cited examples of artificial and synthetic intelligence assisting with tasks that once consumed entire days – such as rendering, upscaling, color correction, data wrangling, and document generation – compressing timelines that previously stretched for weeks. Says Berard, "The company's proprietary rendering process can output ultra-high-resolution files up to 8K now (16K in 2026) in minutes rather than hours. Ultimately, intelligence-assisted design tools accelerate complex technical setups, freeing artists and programmers to focus on the interactivity and the emotional core of storytelling and art."



For Super Bowl LVIII in 2024 the exterior of Caesars Palace in Las Vegas was turned into a full projected surface.



The Grand Hall Experience in St. Louis Union Station is a nightly projection mapping show that DreamLab Immersive is updating for 2025.

New collaborative opportunities

Perhaps the most profound shift is how DreamLab's ecosystem is designed to broaden collaboration. "In the past, only trained animators could put their hands on the actual work being created," says Tracy Balsz, DreamLab's Marketing Director. "Now, writers, visionaries, and designers who might not have the technical background can contribute to the process by mastering prompt engineering skills. They can be part of the creative process rather than handing things off and hoping the intricate details of the direction are properly embraced."

This expanded collaboration has already shaped several of DreamLab's current projects. In Jacksonville, Florida, the company is producing a large-scale projection mapping show that will illuminate the city's downtown performing arts center and fountain as part of a major riverfront redevelopment. The first show for this nightly experience tells the story of Jacksonville's rich history and renewal, its culture, art, sports, and expansive music history. To achieve the authentic visual style the client wanted, Dreamlab used its pipeline to fill gaps in historical imagery, generating period-perfect, authentically researched visuals that were then transformed into moving video sequences. "It allowed us to tell a more complete story that represents the storytelling visually and emotionally," Miceli says. "Without the added hand of these collaborative technologies, that level of curated design would have taken months."

DreamLab's ecosystem also makes it possible for remote teams and outside creatives to participate through shared portals and interfaces accessing the creative pipeline. "We are building an environment where anyone on a project, in-house and other partners – from concept artists to clients – can collaborate dynamically within the same digital workspace," says Miceli.

New tools, familiar values

Despite the advanced technology, DreamLab's ethos remains deeply rooted in human creativity. "It's never about sitting by the pool and typing a few words to see what comes back," Miceli says. "It's about how far we can push creative thought and emotional storytelling embracing our invisible teammates, our agents to reach further."

He points to another past milestone for comparison – his team's work on Terminator 2: 3D for Universal Studios in the mid-1990s, where Soundelux integrated the first of its kind DSP audio processing technology to support a thousand-track mix – an achievement that would have been unthinkable just a few years earlier. "We're similar minds, the same core people with a widely expanded team, but with tools that expand our resources without limit," he says. "Now we can dream bigger and achieve inspiring results with greater freedom."

Projects with purpose

DreamLab's current project slate demonstrates how the company's culture, philosophy and ecosystem workflow scales across disciplines. In addition to the Jacksonville Riverfront project, the team is developing The Hub in Springfield,



In New Orleans in 2025, Paul Whitney, BlueMedia, the NFL team and DreamLab Immersive transformed buildings in Jackson Square into a projection mapping show for Super Bowl LIX.

Illinois – a transport and community center that will use immersive media and interactivity to transform a civic space into a flexible event and storytelling venue. The design includes a massive, transparent visual ceiling delivering immersive experiential programming. An interactive wall is designed as a central hub for all that visitors can experience in Springfield, a collaborative venture across the city with the intention to expand the stay to multiple days through awareness and connectivity. The Hub connects visitors to local culture, businesses, and attractions in real time using AI to communicate and act as a personal concierge.

The company is also collaborating with the Tennessee Aquarium on new immersive exhibits that complement live animal habitats without overshadowing them. "We're finding ways to bring digital storytelling and interactivity into the experience in a way that feels natural and fun," Berard explains. "The goal isn't to compete with the life around you, it's to enhance the sense of wonder and engagement."

DreamLab's client list continues to grow, with upcoming projects including museum installations, retail experiences, immersive dining, zoos and aquariums, corporate art installations and of course, theme park attractions. "We've always looked at technology as a storytelling partner," Ruhlman says. "Our new generative intelligence-forward experience design just makes that partnership more inspiring, exploratory, timely, alive and expressive for guests."

Transforming innovation into human connection

DreamLab's innovations and potential applications go beyond entertainment. Miceli's team is exploring ways to bring its unique immersive interactive experiences to education, elder-care environments and real time human life interaction – spaces where immersive experiences can have the power to improve emotional engagement and well-being.

Miceli notes that guest expectations are evolving as well. "Most of us now live a good portion of our lives digitally," he says. "Younger generations expect everything to move, to respond, to know them and to bring immediate gratification. Embracing generative intelligence in our designs allows us to reach for that reality – experiences that are personalized, adaptive, and alive."

These applications reflect the broader philosophy that AI, when used thoughtfully, expands humanity's reach rather than replaces it. "The mind is the foundation, the dream is the goal," says Miceli. "Technology must serve the process, the creator and the soul of the story. That's what it means to be Human-Inspired, Human-Driven, Human-Centered, AI-Enhanced. Every breakthrough we've had – from digital sound to LED media to kinetic interactive systems – has started with a human dream. Our opportunities today allow us to innovate in more collaborative ways to bring those dreams to life, and that's what Dreamlab Immersive is all about." •

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