



WARNER BROS. WORLD ABU DHABI



ABU DHABI, UAE
EMEA

Warner Bros. World Abu Dhabi, the world's first ever Warner Bros. branded indoor theme park, officially opened in July 2018. Offering a one-of-a-kind, immersive experience, the venue has six uniquely-themed lands spread over 1.65 million sq ft, including Bedrock, Dynamite Gulch, Cartoon Junction, Gotham City and Metropolis - allowing visitors to interact with their favorite characters. Not only that, but there are 29 state-of-the-art rides, interactive family-friendly attractions and live entertainment.

Miral, Abu Dhabi's creator of destinations, as the park's developer, commissioned White Light (WL) to provide the show and themed lighting equipment across the entire park's incredibly immersive themed environments. Having worked on outdoor theme parks before, WL had looked to expand its work in the UAE and with Warner Bros., making the

Yas Island theme park the perfect opportunity to do so.

Thinkwell, who continue to work alongside WL on the Warner Bros. Studios Leavesden in Hertfordshire, UK, were the lighting designers. Having already forged a successful working relationship, WL was contacted by Ride and Show Package Manager, Ken Weiner.

WL's Managing Director, Bryan Raven explains further: "We had worked with Ken before as he was also Project Manager at Universal Studios Singapore, which we also worked on back in 2010. Ken wanted us to get involved as he knew we were from a theatre background and 'the show must go on' is an ethos at the heart of our company. "He also knew how adaptable we were and how, due to our relationship with leading manufacturers, had immediate access to the very latest technology."

WL's partner on the Universal Studios project was

Hong Kong-based Ptarmigan Integration, making them the perfect partners for the Warner Bros. World Abu Dhabi project.

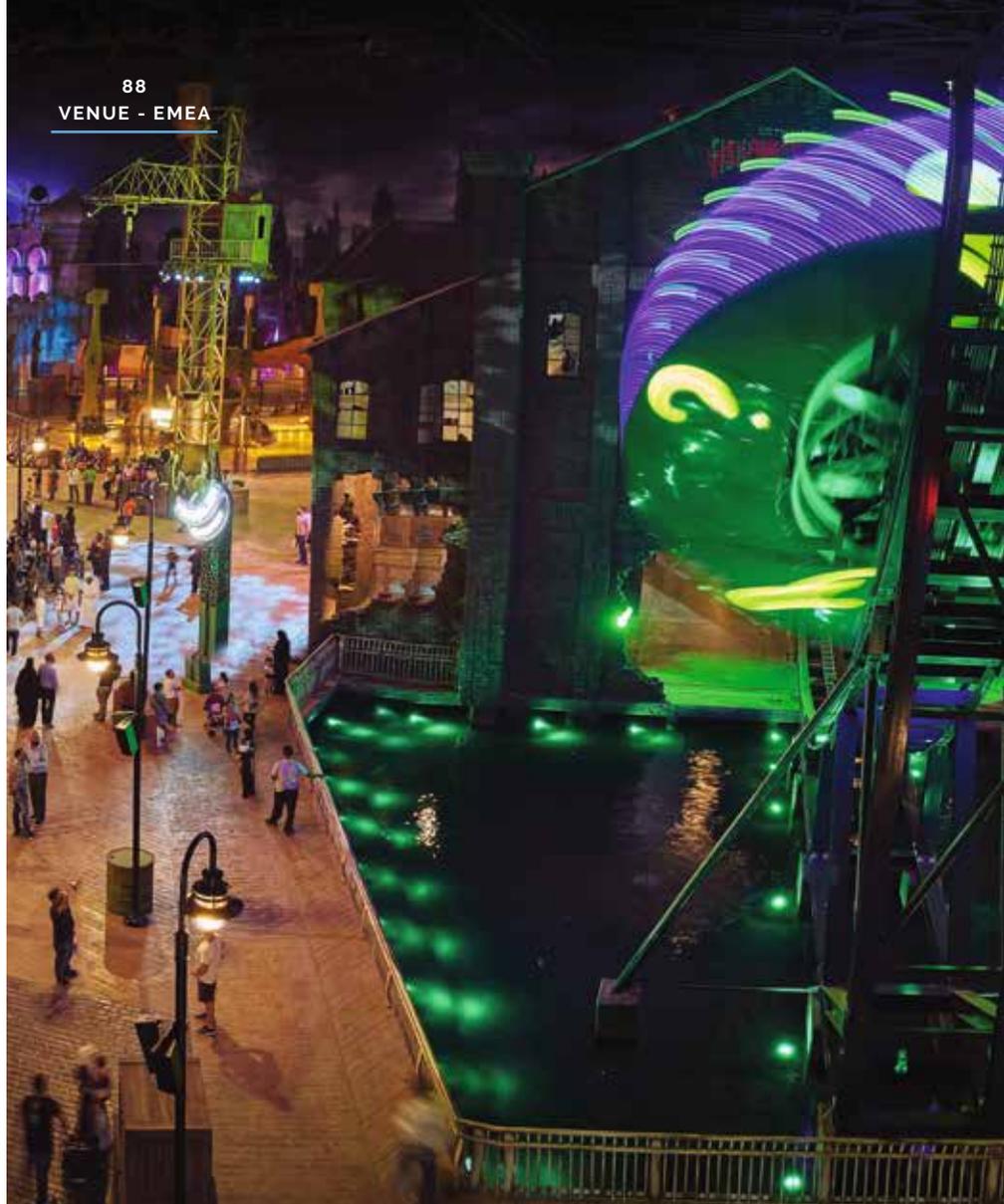
Firstly, Simon Needle, WL's Projects Director, and Ptarmigan's Managing Director, Simon Fraser, made a site visit to assess the layout, along with the scope of equipment that would be required. Then, following a series of meetings with Thinkwell and the other partners involved, WL was then contracted by Miral to supply the lighting fixtures for a majority of the areas experienced by the guests.

Due to the huge quantities of equipment needed, along with the build being in such a hot climate, WL had to devise a bespoke system to ensure everything arrived on time and prepped for the individual areas of the park.

The plan for Warner Bros. World Abu Dhabi sourcing over 16,000 fixtures in total, including 2,000 ETC Source Four profiles.

Simon Needle takes up the story: "Once Thinkwell had finalised their design and told us what fixtures they needed, these were ordered in mass bulk. What that meant is that we had 16 sea containers of kit. What we decided to do was break these down at our London base, so they could then be palletised and prepped in order for them to be ready-to-use as soon as they arrived in Abu Dhabi."

Working on a project of this scale and in such conditions was obviously not without its challenges. Simon Needle added: "It's the same issues you have with any construction project - you have to learn to be completely adaptable as projects grow and evolve. You also have to learn to work closely with the client to ensure you're fulfilling both their technical and budgetary requirements. Thankfully, our team have the right level of experience to be able to allow the project to be value-engineered to ensure we were



• Above left
Bedrock at
Warner Bros.
World Abu
Dhabi

• Bottom left
Metropolis

• Right
Gotham City

remaining on budget, whilst providing the very best service and equipment possible.”

“This was a joint venture with Ptarmigan, in that they would supply the control and dimming systems along with the staffing on site whereas we would supply all the fixtures. It’s the biggest amount of lights we’ve ever acquired for one singular job,” said Bryan.

LSC Lighting Systems was chosen to design, manufacture and supply the dimming and power distribution systems - one of the world’s biggest.

In conjunction with the project design specification from Ptarmigan Integration, the final channel count requirement was over 5,000 channels of both dimming and power switching.

“We were first approached by Simon Fraser from Ptarmigan about the possibility of supplying a large-scale dimming and power solution for their client in Abu Dhabi,” said Pete Floyd, LSC’s International Sales Manager.

“The brief was for a system to control large amounts of complex LEDs, traditional fixtures and DMX controlled relay circuits. We already had plans in motion for an installation dimmer, so this was the perfect catalyst to forge ahead with the design.”

The LSC Lighting team weren’t fazed by the magnitude of the challenge and soon

delivered a formal specification for a new, multi-purpose power distribution cabinet. The task was somewhat daunting, though, with a brand-new design of dedicated LED control, dimming and relay switching modules in both 48-channel and 96-channel cabinets needed - all with a strict delivery schedule.

This, coupled with the added complexity of a ground-up design for a control module that was able to monitor circuits, report individual channel information and seamlessly integrate with all major control protocols and third-party devices, had to involve the entire R&D and production team at LSC Lighting.

However, LSC’s Managing Director and Senior Software Engineer, Gary Pritchard, set his team to work on designing a radically updated dimmer/distribution system for the installation market.

“This new design allowed us to introduce a number of firsts to the industry including zero-cross switching. This eliminated nuisance tripping caused by earth leakage and inrush currents and also provided the fixtures with a much longer life due to less stress being placed on PSUs when powered up,” said Gary.

A new specialised power control circuit was devised to enable the Pulse Transformer Fired Dimming circuitry (PTFD) to be controlled via the software, reducing the number of components

required, hardware costs and the overall weight of the system.

“This was the first time LSC had developed a large-format install dimmer and therefore, we wanted to ensure it was going to be a system that could be commissioned and maintained with minimum effort,” Gary added.

A simple Camlock system was designed with integral micro-switches to allow for quick power-down and release of the modules, thereby allowing the user to swap out any of the switch, dim/switch or LED modules any time.

“Acoustic noise was also a factor in the design and it was an absolute requirement not to have a large and loud single source fan controlling the airflow. Instead, we opted for an individual fan in each module with ‘whisper fans’ on the top of the cabinet to manage the temperature and reduce operating noise significantly.

In fact, with a full load the cabinets are virtually silent in operation,” he said.

From a user’s perspective, living in such a connected world, it was also important to be able to constantly monitor the system remotely from a third-party device and receive SMS messages reporting any fault conditions in a live situation.

As always, the main challenge was time. To embark on a project that would bring new innovations to the market seemed like an impossible task given the time



constraints.

“However, within five months of the first prototype being tested and the great working relationship we have with our suppliers, we managed to ship all of the cabinets to site on time and on budget. This really was a fantastic achievement by the entire LSC team,” explained Gary. The work on-site began in January 2017, lasting all the way through to July 2018, prior to the park’s official opening. Simon explains the challenges of the project further: “The technical and logistical complexities of this project have been a challenge but one that the WL and Ptarmigan teams have been equal to. They deserve to be very proud with what has been achieved over the last two years. “This was very much a team effort and everyone had to collaborate in order to deliver the high expectations on time and on budget. A special mention should go

to the brilliant subcontractors we had working for us, led by Alan Chambers.” Following the success of their work on Warner Bros. World Abu Dhabi, WL and Ptarmigan have now joined forces to form Integrated Technical Production Services LLC (ITPS), which will offer installations, technical support and state-of-the-art technology to venues and projects across the GCC. Bryan concluded: “This is the biggest project we’ve ever worked on as a company, which helps solidify our reputation both in the UAE and as a supplier of technical solutions and equipment to projects of all sizes; something we are extremely proud of. Through ITPS, we are excited to continue offering our expert services across the region.” 

