



Our slightly incomprehensible fascination with the era of the dinosaur shows little sign of abating any time soon. From viewing fossilised or replica remains in a museum, to watching CGI-generated creatures on film, our appetite for absorbing all things 'dino' seems insatiable. What is it about the 'terrible lizards', as the Greeks said, that has us hooked?

Back in the '90s, the BBC presented the TV series *Walking with Dinosaurs*, created by Tim Haines and produced by the highly-regarded BBC Natural History Unit. The combination of dynamic visual impact of the CGI and animatronic creatures alongside the delivery of a narrative in a scientifically accurate documentary style proved a winner, and the six-part series won two BAFTA Awards, three Emmys and a Peabody Award in 2000.

Fast-forward into present day and *Walking with Dinosaurs - The Arena Spectacular (WWD)* is essentially a live adaptation of what was produced for the small screen. Just as the TV programme had the honour of being one of the most expensive documentary series ever produced - and is considered a ground-breaking representation of world of the dinosaur - the WWD production is the result of an eye-watering amount of dollars of investment. The result is a quite extraordinary collection of creatures, variously created using puppetry, suit-operated animals and animatronic monsters that bring a live, 3D and totally immersive experience to the audience.

For this newest incarnation of WWD, the show is presented by TV naturalist presenter Michaela Strachan, who is cast as a palaeontologist to guide the audience through the several ages of the dinosaurs and to introduce



# Return of the DINOSAURS

Kate Lyon unearths the secrets of the mixed-reality arena production bringing dinosaurs to life . . .

the creatures themselves. This provides a structure and a narrative to the show and reinforces the conceit of WWD as both an educational and entertainment performance.

Tour manager Tony Harpur comments: "Occasionally, you get to do tours that are just that bit different; shows like *Dancing on Ice* or *Strictly Come Dancing - Live* inhabit the same size of venues and come with their own set of challenges. But I have to say, this is the first time I've had to load the stars of the show into the back of a truck! The sheer size, structure and complexity of these creatures brings a whole new set of heights to scale on a daily basis."

Managing the 70-odd crew and keeping everything on track is production manager, Pete Bell. "This is my second WWD tour, so I was already familiar with the

dynamics and logistics involved," he says. "For this outing, we have tightened up the performance floor dimensions to ensure the production fits into each venue on this itinerary and there has been a new design for the truss and lighting configuration. We have a full production service from Sonalyst who are old-hands at accommodating the unusual or unexpected, so I knew we were in safe hands even before a dinosaur made its entrance at rehearsals."

#### STAGING & LIGHTS

When one considers that the largest star of the show, the Brachiosaurus (of which there are two) is some 17m long and 11m in height, it becomes clear that building a performance area that allows them to perform to the audience yet doesn't look like an empty flat surface requires both imagination and ingenuity. In an arena





A combination of Robe BMFLs and MMX fixtures do the work in the air, while the floor lighting comes courtesy of GLP impression X4 Bar 20s. These LED batten fixtures with a zoom and motorised tilt have really made a name for themselves since their appearance a couple of years ago. Rory Madden, owner of Sonalyst, expands: "Although the GLPs were client-specified for this tour, we have found them to be very popular with designers, so, like the Robe lights, we had already made the choice to invest in them." Certainly, on shows of this nature where seating is sold to about 270° and there's little opportunity to light from beyond the stage area, the GLP X4s really show their worth.



1 Pete Bell, production manager

setting, essentially the traditional stage area becomes backstage and the floor of the room, where audiences would normally sit or stand becomes the stage. It is some 80ft wide, extending some 125ft upstage to include the backstage area, and is covered with a magnetic floor from Tait. Dressed with a boundary of stage rocks, some of which camouflage the Meyer 900-LFC subs, and with a central rock formation in the centre that changes its appearance as the show progresses from period to period, the finishing touches are inflatable foliage pieces that the dinosaurs and Strachan can interact with. Air-controlled inflatable props are major players on the stage, even the teeth that dress the stage from above; well over 60 fans are at work throughout the show.

The truss mimics the circular performance area with a multi-spoked design that provides flexibility for the lighting rig.

So, it comes as something of a surprise that followspots are not on any of the WWD trucks. "Long-throw followspots would simply not work in this environment," continues Madden. "LD John Rayment needed a system that could follow these massive creatures without overspill or creating unwanted shadow. BlackTrax was the answer. Sonalyst prides itself on owning and supplying the best of the latest developments in technology and, from our point of view, BlackTrax is the best in its class, utilised on multiple large-scale productions all over the world; we were keen to invest. Oli Metcalfe at Dark Arts Creative supplied us the system and was on-hand to oversee the BlackTrax design with the LD."

"I believe this is one of the biggest deployments of BlackTrax to-date on a production of this scale," opens FOH



operator and re-light programmer Emma Davis. "Even the dinosaurs that are suit-operated as opposed to animatronic are at least two metres tall and up to five metres long; with the largest driven one almost touching the truss, BlackTrax was the ideal way to fully light the dinosaurs as they move."

She continues: "The BlackTrax elements are fully integrated within the design throughout the show, with two different approaches being used to create the final design. The first is the more standard replacement of the followspot and operator, with the main human character [in this case, Strachan's Huxley, the palaeontologist] followed throughout the performance. The second, more challenging implementation, creates environments around the dinosaurs. Each dinosaur has a least one BlackTrax beacon with three stringers, this is doubled on the larger and more mobile creatures, allowing the designed 'look' to follow the dinosaur around the performance space. For example, a specific fixture is assigned to follow a specific area of the dinosaur; BlackTrax looks after the pan and tilt of the fixture while the lighting console (a grandMA2) deals with the size, colour, gobo and focus of the fixture. Given the life-like movements

of the dinosaurs and the live operation of the creatures during the show, this is very effective at producing the same effect every performance."

The BMFLs work really well with the system. Two thirds of the rig can be allocated at one time, and because there is no lighting from the front or the sides, shadows are not created and all the light is kept within the performance area. The logic for this choice is clear - the show looks are clean and tight without overspill into the audience. What the BlackTrax option creates is an atmospherically-lit world within the rock boundaries of the performance floor; the audience are outside of this looking in.

And the challenges for the crew deploying BlackTrax? Davis comments: "As with integrating any new technology into an existing show, the set-up process was lengthy and involved cooperation from many different departments. The physical parts of the system needed to be embedded into both the lighting rig and the creatures before being tested and refined to produce the desired results. Every show move the set-up and re-light process is lengthened in comparison to a non-BlackTrax show as the system needs to be calibrated and extra checks completed. However, once this is

achieved, the results are consistently reproduced in every venue and the need for followspots and extensive blocking sessions is removed."

Creating the accurate misty environment were MDG machines - the ATMe CO2 Hazer and the Low Fog CO2. Madden explains: "MDG delivers the best fog and haze on the market. For this show, creating that subtle atmospheric look but being able to control everything precisely was extremely important; after all, the audience are sat inches away from the dinosaurs and at exactly the same level."

Video support is surprisingly minimal. There are the obligatory left and right screens for IMAG and a central screen whose content gently supports the live action on the arena floor. As the narrative progresses through the different periods - the Triassic, the Jurassic and the Cretaceous - the vegetation evolves on the set and the central screens reflect those changes. It's also used to show the largest flying reptiles that ever inhabited the Earth, the Ornithocheirus, at the same time as the dinosaurs.

"We use Robo Cams for the IMAG, including one up in the lighting rig," explains video director Noel Wyatt. "This keeps the performance area clean

  
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Photo: Patrick Murphy



Photo: Patrick Murphy



within the base of the creature; they operate the movement of the dinosaur, as do the suit puppeteers. At FOH, we have three stations each operated by two puppeteers. Each station can operate up to three creatures at a time, running the mouth, facial expressions, muscle movements and SFX on each. We are a pretty international group of independent puppeteers, although we often work together on film and stage projects, so there is a collective understanding of what we are trying to achieve - it's a pretty niche market. Our role is essentially to bring life to an inanimate object."



Photo: Ian Walker Photography

- ➊ L-R: Chris Dawson, Dave Gibbons, Emma Davis and Ashley Simper of the lighting crew
- ➋ Video crew: Noel Wyatt and Cedric Vandepitte

and free of visual obstructions - the show really is all about the dinosaurs and that's what we focus on. There are some close-up details, such as the egg hatching, which really benefit from being on screen for a large proportion of the audience, but generally our role is to support Michaela and her cast of extraordinary creatures."

**PUPPETRY**

It's impossible to ignore the technical and artistic wizardry of The Creature Technology Company from Melbourne, Australia that has created the creatures whose sizes range from just 6" to the massive Brachiosaurus. Each one is individually designed and operated in a variety of ways, depending on their size. Amanda Maddock is one of the puppeteers that practises the dark art of bringing the dinosaurs to life. "We have 10 dinosaurs that are 'driven' and four that are 'suit puppets', plus the tiny creatures that emerge from eggs. The driven creatures have a driver in the bogies

There are five suit puppeteers who perform inside the smaller creatures. They provide a really creative element, firing their own sounds and interacting very closely with each other and with the audience. Their size and manoeuvrability bring a subtlety, theatrical dexterity and extra dimension of realism to the stage. Physically a very demanding job, they also operate the hatching egg dinosaurs.

Inside each of the driven dinosaurs are varying numbers of hydraulic rams and motors, microprocessors to control the subtle muscle movement, endless lengths of hydraulic hose and cabling. The outer skin is meticulously dressed



using the very latest in palaeontology research and discovery. This may be an entertainment show, but there is very real science underpinning the look and movement of the dinosaurs. Consequently, skin colours have become brighter, feathers are present on some, and the range of movement is evaluated on the basis of skeletal parameters. Clearly, the logistics of touring these complex machines is a continuous challenge and there's a large crew contingent in the Creature department who guarantee all 'dino' performers are in perfect working order for every show.

#### COMMS & AUDIO

For a show of this complexity, efficient and reliable comms are a must. As Maddock explained, each dinosaur requires two puppeteers and a driver to be in constant contact along with backstage, lights, sound and video. George Pakenham, Sonalyst project manager for WWD, explains: "[Clear-Com] FreeSpeak is currently the favourite wireless communications system on the market, immediately offering next level voice quality and remote antenna deployment over Cat5. Most importantly it operates in the less congested 1.9GHz frequency band. It was the best choice for this production where reliability as well as quality is so important."

Sonalyst opted for a Yamaha CL3 console for audio control to complement the Meyer loudspeaker system. With a single verbal performer on stage, it would be excusable to think the sound design was not pivotal to the show, but this is a timecoded production where communication and synchronisation are everything. The soundtrack to the show is a specially composed piece by James Brett; Strachan has over 30 pages of script to deliver and the dinosaurs are far from silent and work independently of any auto triggers.

"Sonalyst has a wealth of experience delivering the very best audio experience in environments where the PA has to be discreet so as not to distract from the main visual event," comments Pakenham. "And you don't get much more visual than this show; hence the camouflaged subs. Although this tour, by its very nature, is very much an all-arena show, we always make sure there's enough flexibility on the back of the truck to cater for extra audience fillers and the like, wherever and whenever required."

#### 21ST CENTURY UPDATE

As mentioned, the WWD show covers the Triassic, the Jurassic and the Cretaceous periods, which ended some 65 million years ago. Luckily, PM Pete Bell has his feet firmly in the 21st century. "The physical

logistics of this production are a bit out of the ordinary," he says. "There has only been one venue where we have really struggled, but even at the biggest arena, there's little room for manoeuvre either physically or time-wise. With 20-odd trucks and some very uniquely designed dollies, I am more than happy to have Transam on board delivering their usual highly professional service. We do a 6.00am load-in and by 8.30am the floor is down; 10.00am is lights and sound followed by video an hour later. By 11.30am, we need access to the dino dock; getting the cast of creatures ready simply takes a long, long time. As with any tour, it's the people that make the difference, and the crew go above and beyond to make WWD happen."

"We have the best hardware specification possible from Sonalyst: lighting, audio, projection and their comprehensive rigging package," says Bell. The support and service we've had from Rory, George and the whole team at Sonalyst is second to none; the humans here all appreciate it, but I am not sure our diva stars of the show have quite caught on just yet."

WWD is a global tour, presently playing arenas in Europe. The production returns to the UK and Ireland this December. ●

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