Kicking Off the Gulf Cup

Creating an Olympic-style opening for a top sports event in Abu Dhabi

By: Louise Stickland

The Dubai-based production company, HQ Creative, working in close collaboration with Done Events, delivered a sensational opening ceremony to the for the 18th Gulf Cup in Abu Dhabi, United Arab Emirates (UAE). staged in the Zayed Sports City Stadium. The show—a 37-minute mixed-media spectacular—was the largest-ever opening event to date for a football tournament. It was conceived by HQ's creative director, Katie Veira, for the organizing committee of the 18th Arabian Gulf Cup, which is headed by His Highness Sheikh Hamdan bin Mubarak al Nahyan.

The performance featured 1,200 live performers, 55 horses, and an international production team of over 400, who worked with approximately 1,700 local crew members over the build period. The show was enjoyed live by 55,000 spectators and a TV audience of 50 million, who tuned in to the Dubai Sports channel.

The task of building the complex technical infrastructure required for the event was coordinated for HQ by production director Jo Marshall, working with project manager Jo MacKay; production coordinators Ian Greenway, Candice Dalziel, and Nadine Manning; and site manager Nigel Beaton. After receiving the green light from the committee, they had just 43 days to produce a world-class ceremony show.

The show contained several technical world firsts: the first seamless, fully spherical HD projections and the highest-built version to date of the tower system created by the trussing company, ESS.

With such a short time to prepare, HQ enlisted the services of the Sydney-based veteran ceremonies producer, Andrew Walsh, as artistic consultant. Walsh's previous experience includes executive-producing the Athens Olympics Opening and Closing Ceremonies in 2004.

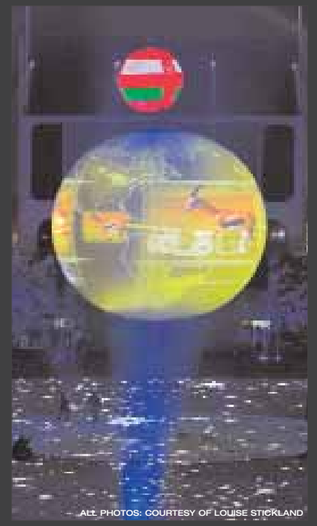
A creative workshop followed between Veira, Marshall, and Walsh, together with PIGI projection designer Peter Milne and technical director Nick Eltis, who were both brought onboard by Walsh. Here, HQ's original concept was reworked into a show that could be achieved within the ambitious time frame—a plan that was then approved by the Sheikh.

A front-line production management team was also brought onboard. Chris Hey (covering rigging and staging), Philip "Philby" Lewis (lighting, PIGI projection, video), and Ian "Baldy" Baldwin (audio, comms, pyro, and lasers), all of whom were overseen by Eltis. Eddie Esho, of Done Events, dealt with the client liaison for general production and technicals, which involved daily meetings, briefings, and updates with His Highness as the date approached.

Leading international production companies included Procon (lighting), Neumann & Mueller (high-definition 360° video projection) and Tarm (lasers) from Germany, Norwest (audio) and the Electric Canvass (PIGI projection) from Australia, Groupe F (pyrotechnics) from France, and Stage One (rigging and performer flying) and ESS (towers, steel, and rigging) from the UK. The Inflatable Event Company designed and supplied the solar system, "flagballs," and the main projection sphere; the aerialists came from Showtech Rigging. The latter two companies are both based in Australia.

The production was aided by the close proximity of the Doha Asian Games in December; many top-level technical and production personnel were available once that project was concluded, along with equipment and other resources. The question was how to get them to the UAE in time; finally, four military planes were scrambled to air-lift gear to Abu Dhabi.

Although the two countries are both located in the gulf, freighting of any kind between them required numbers-crunching, a mountain of paperwork, and many procedural challenges for HQ's freighting department, headed by Russell Mason. And that was just the gear coming from Doha; in addition, equipment arrived from Europe, Australia, Asia, and America.



ALL PHOTOS: COURTESY OF LOUISE STICKLAND

Fully spherical HD was projected onto a 33' diameter sphere hung under the central truss.

"Time scale was easily our biggest challenge," says Jo Marshall. "We had to go from zero to a show that would stun and amaze in five weeks, with only three full weeks onsite. Most shows of this size and complexity would be running on at least a six-month lead time or more." The work agenda included booking artists; sourcing technical and creative personnel; organizing contractors, freight, flights, transport, labor, catering, costumes, and paperwork; and getting the stadium ready to stage its biggest and most prestigious event yet.

Towers and rigging

Once aerialists were written into the script, it was immediately obvious that an overhead flying system was needed, as well as some sort of lighting positions over the field of play.

The solution was to build eight 230' high towers, all at 45° from one another, constructed from standard ESS tower truss, located around the outside the stadium walls—of which they are nearly

three times the height.

This allowed Stage One to attach a Q-Motion performer flying system and rig a series of catenary wires to hang a 20m (66') diameter circular truss right over the center of the pitch. The bottom rail of the truss was trimmed at 36m (118'), the minimum FIFA requirement for a football match to continue below. There was just one additional logistical conundrum: opening night coincided with the tournament's opening match, which had to commence within 30 minutes of the show's finale.

Two hundred thirty feet is the highest that ESS has ever built its tower system, so first came some special calculations to ensure it was feasible. After an initial site visit, explains Jeff Burke, of ESS' UK office, a surveyor was dispatched to Abu Dhabi to double-check the accuracy of the stadium plan. This prompted the discovery of an underground infrastructure of drainage, electricity, gas, water, and other services, which severely limited the number of chemical fixings that could be used in anchoring the towers to the stadium.

Each tower had 24 building anchors plus an additional six fully laden containers of ballast, made up from a total of 1,100 tons of sand and 600 tons of concrete ballasting. The anchor work was completed by The Specialists, based in Abu Dhabi.

Stage One installed a 17-axis Q-Motion system for flying eight aerial performers in two axes—up/down and backwards/forwards along the wires—plus a 30kW electric winch at the base of Tower 5 to raise and lower the central inflatable sphere. This hung below the circular truss and served as the main video projection surface.

The hub of the Stage One flying system weighed 3.5 tons (with steel attached) and was suspended using 6,173lbs of 22mm steel wire rope; another 3,968lbs of 18mm wire rope was used for the performer trolleys. The final height of the hub above the field of play was 127'.

Also attached to the hub was a radial system of tensioning wires (12 per tower); also, a special head for (or on) each tower was tensioned to the cables as the whole system was erected and adjusted, a complicated operation taking three days to complete.

Inside the stadium, 22mm steel wire rope catenaries held up the center truss, which was constructed from Total Fabrications' heavy-duty trussing. It was suspended by four pairs of wires, all running back to the towers at no more than 10° from horizontal. The total weight of the trussing (unladen with lights), including eight motors, was 8,378lbs. Stage One's crew totalled 22—twelve riggers, six technicians, and four operators—managed by Jim Almond.

Rigging the rope system required four 200-ton cranes with reaches in excess of 230', which came onsite towards the end of December and were coordinated by Ian Greenway. His brief included finding a crane that could pass underneath a 11' high sewerage pipe to get inside the stadium. Cranes were also used to lift all the pyro and numerous other gear onto the roof, including power distribution, BigLite searchlights, and PIGI projectors.

Production riggers Shane Manning and Richard Estridge oversaw rigging of the 16 lighting trusses around the lip of the stadium roof. They also installed a horizontal safety line around the roof passage; crowned the towers with red flashing beacons, as required by Abu Dhabi air traffic control; and designed a cantilever and counterweight system for hoisting a burning falcon pyro effect in front of the main stadium LED screen.

Projection

High-definition video and PIGI projection—working completely independently—were incorporated into the show for additional visual diversity and depth. The PIGI projections filled the field of play, painting it with patterns, emblems, bold slashes, and pools of color and texture. Fully spherical HD was projected onto a 33' diameter inflatable sphere hung underneath the central truss. The main sequence of HD projection was a major element of the show's visual narrative, stitching together metaphorical images of speed, diversity, athleticism, passion, and power, linking athletes with natural elements and wildlife.

Munich-based Neumann & Mueller supplied all the HD gear and expertise, projecting across the whole of DIFC's iconic arched building in HD video. Katie Veira and N&M's Klaus Ostermaier worked on the Gulf Cup content, the final versions of which were produced at N&M's studio in Munich.

The HD sequence kicked in just before the pyro and laser finale, and was beamed onto the inflatable sphere using 12 Digital Projection 30 SX units, stacked three high at four positions around the stadium. They rested on special platforms about halfway up the seating stands—all at 90° to each other.

Ostermaier specced the system, which was teched onsite by a crew led by Martin Singer. Each group of projectors sent a quarter of the full image to the sphere, and the seamless wraparound of the flat artwork was achieved using a Pandora's Box control system, developed by German-based Coolux. "It was absolutely the best option for the job," comments Ostermaier. Pandora's Box also stored all the content, which was played back—to time code-triggered DMX—from an MA Lighting grandMA console.

The biggest challenge was to keep the sphere still, and in precisely the correct position, for the video sequence; variables included the wind and vibrations across the flying system caused by other moving elements, like the planets and flag-balls, as they ran along the track.

The N&M team also supplied the three house LED screens (two in the north and south stands at a 3:2 ratio, and one in the east stand at 6:9) with two separate signal feeds, with the DVI signal supplied by fiber-optic cable.

Sydney-based Peter Milne was in Doha, working on the Asian Games events, when he received the call about this project, and popped over for a day for the summit with HQ Creative, Walsh, and Eltis. He collaborated closely with Veira on the content, which was turned into PIGI artwork and films by his company, The Electric Canvas. The effects were primarily atmospheric, filling out the vast pitch space, and PIGI was a vital layer in the show's imaginative matrix.

The 12 PIGI projectors were positioned on the roof of the stadium. Four were placed on a custom-built scaffold platform on the eastern side (opposite the Sheikh's enclosure). All had double rotating scrollers on the front, each loaded with approximately 33' of film per projector, containing about 50 frames of artwork. Milne operated the show using PIGI's OnlyCue, a PC-based playback system, and worked with a five-person crew.

Milne made a flying visit to Abu Dhabi at the end of the Asian Games to undertake a laser survey of the Zayed Sports City Stadium. This was necessary, as no accurate CAD

drawings of the venue were available and, with just five days to install and commission the system—including getting kit up on the roof, in position, lined up and fired up—there was no room for error.

Lighting

Lighting designer Paul Collison's brief was to be "fluid." Luckily, he was able to use MA Lighting's WYSIWYG-type program, MA3D, to come up with a design that he was confident would work on December 20th, the first day he walked into the stadium. He focused first on the 217' performance space, then went on to highlight the stadium's arched and rounded architecture using 55 Martin Professional MAC 2000 Wash units, which filled out the undersides of the roof arch. "It's the kind of gesture that really states where you are," Collinson says, adding that he deliberately chose to keep the audience lighting subtle.

Thirty-three feet back from the periphery of the main performance space on the ground, he placed 32 custom-made lighting trolleys, each containing two Mac 2000 Wash units and two Clay Paky Alpha Spot 1200s. He used the Alpha Spot's bar gobo when lighting the performers to help avoid drowning out the PIGI projections. The Mac 2000 Wash units illuminated the aerialists, along with the followspots.

Fourteen BigLite 4.5Ks were positioned around the roof and used to produce stunning aerial framing effects. Sixteen 33' trusses were strung around the lip of the roof to provide more lighting positions for illuminating aerialists, field-of-play action, and audience. Twenty-four Alpha Spots and 24 Mac 2000 Washes were on the circular truss.

With fiber-optic backbones running around the roof and floor of the stadium, and lighting controlled by the grandMA, the staff broke out to Ethernet using MA NSP nodes (which can expand up to 64 DMX universes in one console); Collison calls it "an absolutely rock-solid system."

Lighting equipment was supplied by Procon, with all of it coming from Doha, apart from the eight Lycian followspots; the total fixture count was 280 Mac 2000 Wash units, 88 Clay Paky Alpha Spot 1200s, 48 Vari*Lite VL3000 Spots, and 14 BigLites. (BigLites are distributed in the U.S. by Martin Professional.)

Procon pulled a crew of 24 from Doha. It took ten days to get in, rigged, and ready for the first rehearsal; the company's site team was led by technical director Mateus Rau and crew chief Daniel Steffe.

Lasers and pyro

Lasers were supplied by Tarm, from Germany, and Pyro by Groupe F, in France. Tarm has worked with HQ Creative on many other shows in the area, and was asked to contribute atmospheric and beam effects, including audience scanning and big sweeps.

The show was designed and operated by Tarm's Kai Kasprzyk. There were two big laser moments. The first created a water effect as 230 "sock-fish" school children ran across the pitch with illuminated "sock torches." The other was combined with pyro and lighting in the spectacular two-and-a-half minute finale.

The system ran eight air-cooled laser systems, all based on the east side of the field of play, facing towards the Sheik's box and the VIP enclosure. Four green 5W systems and four full-color 8W RGBs, plus 32 smoke machines dotted around the pitch, were used. Each laser had its own computer control, and the eight channels were linked via fiber optics to the Laser Animation controller, which was controlled by time code.

Pyro was designed by Jonas Bidault. Once again, timing had an impact the design effects, which had to be ordered and delivered while the show was still evolving. The final elements only emerged when Bidault arrived onsite for the last time, two weeks before the show; freighting explosives to the Middle East also required intense levels of documentation, scrutiny, and health and safety regulations.

Pyro was placed all around the stadium roof, with a large concentration on the east side above the scoreboard/large LED screen and on the trussing circle. Thirty-two flame jets surrounded the perimeter of the field of play in between the lighting trolleys. For the finale, a cocktail of high aerial effects, stationed 1,969' outside the stadium, were montaged into the display.

The roof pyro was manufactured in Spain and was custom-designed for the show; some effects came from England, and the high firing aerials were sourced in China. An assortment of colors included some specific requests for reds, greens, and whites to represent the UAE flag during the national anthem. Groupe F's 15-strong pyro crew started to rig five days before the show.

Audio

The sound system took advantage of the house EAW rig, augmented with equipment supplied by Australia-based Norwest Productions; Norwest also did the Asian Games, so the system was sent on from Doha.

In Abu Dhabi, the sound installation and set-up operation was overseen by Adrian Riddell and his eight crew members from Norwest. They were given the show's music track (created by music producers Christo Curtis, from Australia, and Mohammed Yanaz, from Abu Dhabi), which was taken into Pro Tools for final editing and the addition of time code. It was then transferred into a Pyramix hard drive playback system for the show.

The show's front-of-house sound was mixed on a Yamaha PM5D by Ian Shapcott. Beside him on the control platform was Ewan MacDonald, mixing the monitors on a DiGiCo D5 console. This included over 750 in-ear sets and a system of eight field-of-play wedges. Both consoles were patched up to do both FOH and monitor mixes, so one could take over in case of an emergency.

The 750-plus IEM FM receivers were looked after by Ian Baldwin, production manager for sound, comms, pyro, and lasers. The receiver feeds were divided into three levels: Level 1 (10 Shure PSM 700 systems) was for headline talent, the conductor, and aerialists, and Level 2 (40 Shure PSM 200 systems) included specialized ground-based performers. Level 3 featured proprietary FM receivers from the Australia-based PA People, which were made available to the mass cast. This included 630 painters, who created a 39' wide portrait of the Sheikh "live" on the pitch in two minutes, a sequence choreographed by Wanda Rokiki. Shure UR4D radio mics were used for the marching band and soldiers with rifles. It was a huge challenge distributing and attaching 750 receivers to people who don't normally use them, complete with instructions in English and Arabic.

PA People looked after all the comms, including 200 portable radios and 40 cabled comm packs. The company used a Clear-Com Matrix system with radio-based antenna systems and combiners that interfaced to the matrix. There were 12 concurrent radio bases in operation and another 20 interfaced simplex channels, giving coverage all around the stadium and up to 1.2 miles outside it. PA People also provided an optical link from the back of the grandstand to the off-site pyro firing range on the east side and a satellite downlink for data services to the control room area.

Inflatables

The Inflatable Event Company built eight planets, eight flag balls, and the central projection sphere the week before Christmas, for a January 4th delivery—when the normal lead time would be six to ten weeks. Rob Waddell and his team made it happen in their Sydney workshops, and then flew to Abu Dhabi with a crew of nine, where they worked closely with Stage One.

PIGI projectors painted the playing field with color and patterns. Pyro was fired off of the stadium roof.

The balls measured 16.4' in diameter. The inflation system for each sphere was internally mounted, so the balls could be pre-set in five minutes. Weighing less than 110lbs, they were filled with cold air; the pressure was maintained by internal motors, giving them their floatability.

As soon as the show came down, the pitch clearance team, coordinated by Dean Jewell, swung into action, peeling back the protective covers over the pitch and clearing the debris, which ranged from horse droppings to pyro fallout to props on the running track. All this was achieved in seven minutes, and the space was ready for the first match of the tournament to kick off.

Jo Marshall says, "The strategic importance and stature of a world-class opening ceremony cannot be underestimated. The end result in the time scale was a massive tribute to everyone involved—from the creative team, show directors and producers, technical expertise and crew, specialists and cast, right down the many, many locals who put their hearts, energies, and knowledge into helping us get the show on."

Eddie Esho adds, "His Highness and the organizing committee were really happy with the results, which makes the gruelling round-the-clock work schedules and the many other challenges all worthwhile." The crowd went completely wild at the spectacle unfolding before them, and Dubai Sports registered record viewing figures.