



# WATERS OF HOPE

## A one-night event by Cirque du Soleil celebrates World Water Day

By: Mel Lambert

**A**round the world, Cirque du Soleil has presented a large number of visually arresting productions combining dance, acrobatics, and innovative audio-visuals that push the envelope of sound, lighting, and video design. When company founder Guy Laliberté decided to give back to the environment, he decided to combine the talent from seven of Cirque du Soleil's Las Vegas-based productions for a one-night event to coincide with World Water Day. On Friday March 22, *One Drop*, a non-profit organization established by Laliberté, presented *One Night for One Drop*, a full-scale production created specifically for a performance at The Bellagio's O Theatre in Las Vegas. Sponsored by Lamborghini and MGM Resorts International, owners of the Bellagio property, *One Night for One Drop* featured more than 230 Cirque du Soleil artists and guest performers; the spectacular event was videotaped with 12 cameras for a 90-minute broadcast that streamed online during the following week.

Established in 2007 by Laliberté, *One Drop* is a non-profit operation that, in his vision, "strives to ensure that water is accessible to all, today and forever, by developing integrated and innovative water-access and management projects worldwide." According to its organizers, *One Night for One Drop* "is a global philanthropy event that raises awareness and funds to ensure that water is accessible to all" and "celebrates the Earth as an artistic creation and highlights water as the essence of life within the Earth's ecosystem." It is estimated that almost a billion people do not have access to safe drinking water and 2.5 billion live without sanitation.

The *One Night for One Drop* event committee featured Albert II, Sovereign Prince of Monaco, as honorary chair, with film producer/director James Cameron; Daniel Lamarre, president/CEO of Cirque du Soleil; James Murren, chairman/CEO of MGM Resorts International; and Tom Staggs, chairman of Walt Disney Parks and Resorts, as co-chairs. The

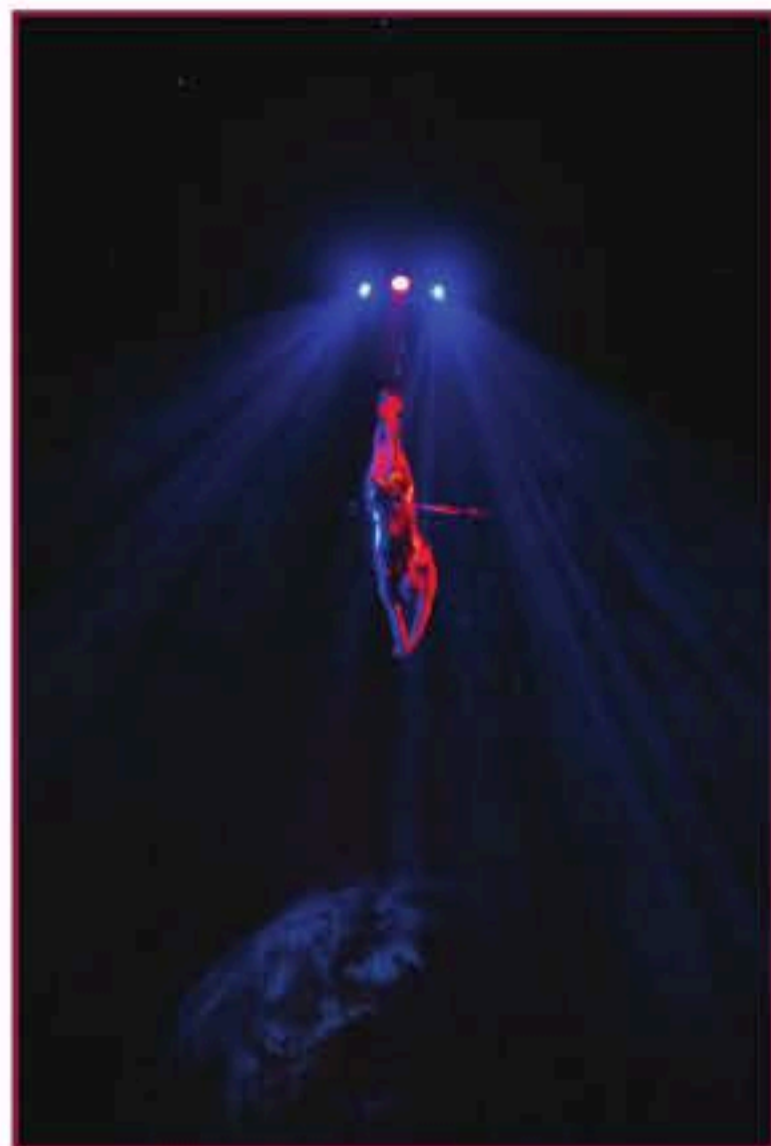
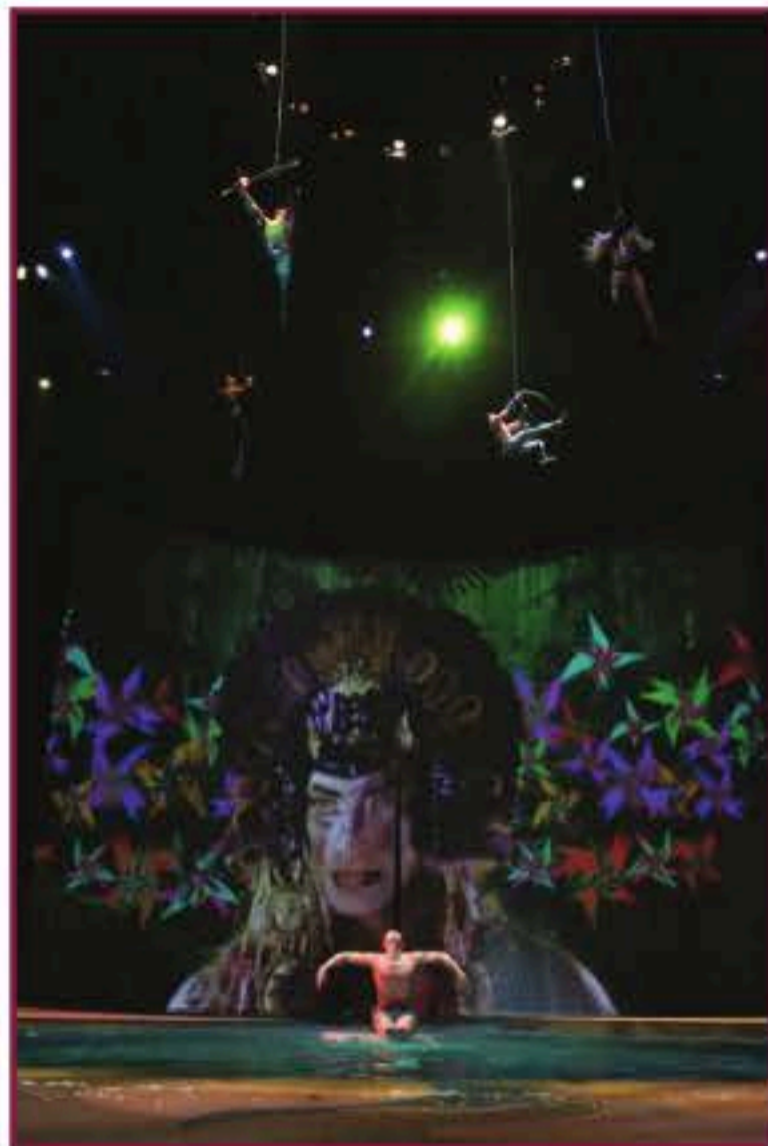
Las Vegas Host Committee included Mayor Carolyn Goodman and Oscar Goodman, chair of the Convention and Visitors Authority.

Having darkened all seven of Las Vegas' Cirque du Soleil shows, some 1,700 employees, including 500 artists, were available to participate in this "once-in-a-lifetime extravaganza," directed by Krista Manson. Special guest artists included singer Jackie Evancho; performance painter David Garibaldi, from *America's Got Talent*; Victoria's Secret model Oluchi Orlandi, unveiling a specially-designed Roberto Cavalli gown; a dance piece choreographed by Sonya Tayeh, from *So You Think You Can Dance*; and the first-ever string quartet composition from award-winning composer Danny Elfman, whose work for Cirque du Soleil's *Iris: A Journey Through The World of Cinema* was profiled in the February 2012 issue of *LSA*.

Because of continuous performances within the O Theatre, the space could not be modified too drastically; the venue closed for only two days to accommodate a single day of preparations followed by a dress rehearsal and the actual 90-minute performance. The existing lighting system was augmented by additional automated



Photos: Courtesy of Cirque du Soleil. Challenge Photo by Anagnostis; John Stobley; and Christopher Jones



units, while special video projections were designed by the Montréal-based firm Moment Factory. Preparations for the event started in November 2012, with working plans finalized by the end of January.

"Because *O* features no projection equipment and [lacks a] video infrastructure, the entire system was brought on site for the event," says Cirque du Soleil's Martin Crawford, who serves as technical manager for lighting and multi-media and who, during his 15 years with the company, has worked on *O* and *KÀ*. "Christie generously supplied a number of projectors, including three Roadie HD+35K 1080 HD DLP projectors for the main screens and four Roadster HD14K three-chip DLP projector units for the side screens, plus four Christie DS+10K-M SXGA+ DLP projector systems for additional surfaces; six Christie 10K projectors came from our *Zarkana* and *Believe* shows. A Roadster S+10K-M SXGA+ DLP projector handled a 'veggie' effect, while a Roadster S+20K SXGA three-chip DLP projector produced a large moonscape effect, with a pair of Roadster S+10K-M SXGA+ DLP projectors mounted onstage for additional effects."

"We used the theatre's lighting dimmer room to house

the six coolux video servers, coolux Media Managers, and Cisco network switches, mounting projectors on various balconies and on stage," adds Crawford. The projection crew, including programmer Selina Davenport (also assistant head of projection for *Zarkana*), lead technician Megan Sciarini, lead warp manager Eric Womack (head of projection for *Love*), and projectionists Davin Gaddy and Brian Davis, was drawn from internal Cirque du Soleil department heads, assistant department heads, and technicians, all of whom contributed their time and expertise.

"We spent several weeks developing video content with Moment Factory, based in Montréal, and then two weeks in Las Vegas refining the highly interactive material for the *One Night for One Drop*," Crawford continues. "During the 'Carnival' sequence, we used all of the projectors to move images from the rear of the theatre to the side screens, while for the 'Ice Caps' sequence, we created the [projected] illusion of icebergs floating on the water. Sean Jensen, the show's lighting designer, helped sell the illusion; he did a brilliant job."

"My basic task," Jensen says, "was to create different



places and climates around the world and highlight water as the essence of life. We needed to define the look of *One Night for One Drop* and the director [Krista Manson]'s specific vision. We wanted to take the audience out of the *O* Theatre into the spirit of the Earth, emphasizing the beautiful, yet fragile, planet and its reliance on water."

"One of our biggest challenges [during technical rehearsals]," Crawford remembers, "was completing the convergence and warping adjustments for the various projection systems—it took more time than we had expected. Also, because we had borrowed a number of video playback systems [to augment the *O* Theatre's in-house equipment], tying them all together and getting enough light on the projection surfaces was sometimes problematic. To ensure adequate brightness or to ensure system redundancy, we always had at least two projectors for each playback system, whereas three or four would have let us double-up on the project." Other video crew members included Selina Davenport, assistant head of projection for *Zarkana*, and Eric Womack, head of projection for *Love*.

#### Augmenting the lighting systems

"Although we had to use the *O* lighting rig," Jensen continues, "we soon realized that we would need to add a number of moving lights and other fixtures due to the very show-specific system in place. We arranged to borrow fixtures from other Cirque du Soleil shows, including *Mystère* and *Zarkana*, which uses a number of moving lights and had spare fixtures to loan us."

Added fixtures included eight Clay Paky Stage Scan moving-mirror units plus ten Vari\*Lite VL3500 Wash luminaires and ETC Source Four fixtures. "During pre-production, we used an ETC Gio lighting console," Jensen recalls, "and a new ETC Eos Titanium for rehearsals and the show. We spent four weeks, working two to four hours a night, programming ideas from watching videos and getting familiar with the existing rig. My assistant and programmer Donald Leffert used to be on the *O* lighting team, so his knowledge was a huge help."

"Another big challenge was creating a lot of scenes without artists onstage. Since we had very little time with them, our adjustments needed to be efficient, with good communication, so we could validate any safety concerns."



Back row: Gavin Whiteley, Chris Crump, Brian Smith. Front row: Tony Kearns, Bill Mansfield, Glenn Griger, and Eric McFall.

Rehearsals were held throughout Las Vegas, but it wasn't until dress rehearsals at the *O* Theatre that we could see how the lighting reacted to the costumes together with the projection screens."

"I also had to work out with the team at *O* where to safely rig the additional lighting fixtures for two months while daily shows continued at the *O* Theatre," Jensen adds. With music playing such a strong role in *One Night for One Drop*, Krista [Manson], Donald [Leffert], and I would sit in the theatre until sometimes 4am playing with fade times so we could evoke the emotions and the spirit of the individual acts. I think we achieved that."

#### Additional audio equipment

To augment *O*'s existing supply of wireless microphones, Sennheiser Electronic donated more than \$75,000 worth of RF systems to cover the additional performers. "We sent ten channels of EM 3732 II dual-channel receivers," explains David Missall, Sennheiser's manager of national market development, professional systems. "Las Vegas is a tough RF environment, with a very crowded spectrum, and there were existing wireless systems being used. But a combination of the EM 3732 II's wide 184MHz bandwidth and 80dB RF rejection gave the show the flexibility it needed with the rock-solid RF links they have come to expect from Sennheiser. Our systems offer greater sensitivity and, being frequency-agile, can run more channels within a crowded spectrum."

"We also sent SK 5212 II body-pack transmitters operating in the 470-638MHz/L range and SK2000 belt packs operating in the 558-626 MHz/B Range. The SK 5212 II is our miniature transmitter that can be—and

was—hidden within a performer's wig if necessary and can withstand the rigors of a typical Cirque show. The SK2000 belt packs also offer the advantage of adjustable RF output power to handle different applications from short-to long-range situations." Microphone elements included Neumann KK 104 S-MT, Sennheiser MKE 2-4 Gold, DPA 4099, 4061, and 4066 omnidirectional capsules with clip-on mounts. Also available was a Shure PSM600 in-ear monitoring system for on-stage talent.

The ten channels of wireless transmission donated by Sennheiser were combined with four channels borrowed from *Zarkana*. "We needed to be careful with frequency coordination for the extra RF channels, since the *O* Theatre normally only requires a couple of systems," says Gavin Whiteley, technical manager of audio for Cirque du Soleil's resident shows. He worked closely on the project with Bill Mansfield, head of audio for *O* and sound designer for *One Night for One Drop*, and Brian Smith, front-of-house sound mixer and sound designer. The audio crew also included technicians Chris Crump, Tony Kearns, and Eric McFall, together with Glenn Griger, assistant head of audio.

"As soon as it became clear that the production called for more wireless channels than were used in a normal *O* show, our friends at Sennheiser USA immediately supported us with a donation of wireless receivers, body packs, and microphones so we could realize the vision of this show without any technical compromise." Whiteley adds, "David Missall from Sennheiser was instrumental in arranging for us to have a broad assortment of Sennheiser equipment" to expand the existing RF system without changing frequency coordination.

"We couldn't make any significant changes to the system until after the Wednesday evening show; the venue had to be back in full operation again by Saturday evening," Whiteley says.

The permanent sound system at the *O* Theatre—designed several years ago by industry veteran Jonathan Deans—includes speakers distributed around the Italian-style interior, all of which are controlled from a Meyer Sound LCS Matrix3 mixing system. "Each side of the main arrays is comprised of two Meyer self-powered DS-4P horn-loaded mid-bass loudspeakers, two Meyer self-powered MSL-4 horn-loaded long-throw speakers, and two Meyer self-powered CQ-2 narrow-coverage cabinets, augmented by three d&b audiotechnik B2 subwoofers in cardioid configuration," he says.

"Four Meyer CQ-2 narrow-coverage cabinets cover the balcony, with four more CQ-2s, four Renkus-Heinz C2 cabinets, and four JBL Control 23 loudspeakers for surround channels located around the theatre. Front and side fills are handled by six Meyer UPM-2P ultra-compact, narrow-coverage loudspeakers, two Meyer M1D ultra-

compact, curvilinear array speakers, 16 JBL Control 23s, and five Renkus-Heinz SR81 two-way loudspeakers; underwater fills comprised Clark Synthesis Diluvio water-proofed speakers."

Front-of-house mixing was handled by a multichannel LCS CueConsole with Matrix3 LX-300 frames, Matrix3 I/O cards, four fader modules, four meter modules, system editor, and transport-control modules. Outboard effects included a Lexicon PCM80, Lexicon PCM90, and four Lexicon 300L processors, with local cue monitoring provided by a pair of Genelec 6010A near-field speakers. Stage monitoring was provided by a second LCS CueConsole with Matrix3 I/O cards, fader, meter, and editor modules, plus six TC Electronic M-One XLs and a single Lexicon PCM80 effects processor. A pair of Mackie HR824 speakers and a single HRS120 subwoofer handled local auditioning.

"Building and rehearsing a show of this size and scale is no easy feat," Whiteley says. "But even more so when the showroom has to switch back every night to perform *O*, one of Cirque du Soleil's longest-running and most beloved shows. Careful preplanning on the part of our assistant head of audio made the daily transition seamless; and the fully programmable Meyer LCS systems at FOH and monitors made it possible to switch between two complex mix layouts with just a few mouse clicks."

"Danny Elfman was thrilled to hear his first string quartet brought to life by four moving musicians sporting Sennheiser SK 5212 II packs with DPA 4060 and Countryman B3 lavalier microphones—all the while surrounded by a pool of water and a character tracing a trail of open flame between their fragile wooden instruments. It was something for the audience and the musicians alike to behold!"

"This was an evening of many firsts," Whiteley concludes. "The first string quartet ever composed by Danny Elfman, the first time we had used synchronized video and time code in the *O* showroom, and the first time producing a show other than *O* at The Bellagio Theatre. All were successes, but none would have been possible without the hard work and long hours of Bill Mansfield and the rest of the *O* audio team and support from the seven other Cirque du Soleil shows along the Las Vegas Strip."

"FOH production sound mixer Brian Smith and our two musical directors, J. K. Kleutgens and Jean-Francois 'DJeff' Houle, spent many late nights and early mornings bringing original music and reimagined Cirque compositions to life in the *O* Theatre. The Jonathan Deans-designed sound system at the Bellagio has brought the classic *O* sound track to life for so many years that it was easy to forget just how versatile and beautiful-sounding the room and system already were. Using the same brush to paint a new sonic picture was an adventure for all involved!"



Donald Leffert, lighting programmer and assistant designer, with lighting designer Sean Jensen.

"The projection system would not have been possible without the generous support of Christie Digital," Crawford concedes. "With special thanks to Gary Fuller and Fred Scurti for the amazing support they provided. The team from coolux, headed by Steve Gilbard, provided top-notch technical support, while Andrew Atienza, from Technomedia, and Dan Ribaud from coolux provided specialized expertise in installing and configuring the system." 📞

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The backstage technical area housed a Meyer LCS CueConsole control surface and Matrix3 mixing system for monitoring.