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APRIL - JUNE 2011

Cover Stories

The Crane Dance

Resort World® Sentosa,
Singapore (seen above)

WONDER FULL

Marina Bay Sands®,
Singapore

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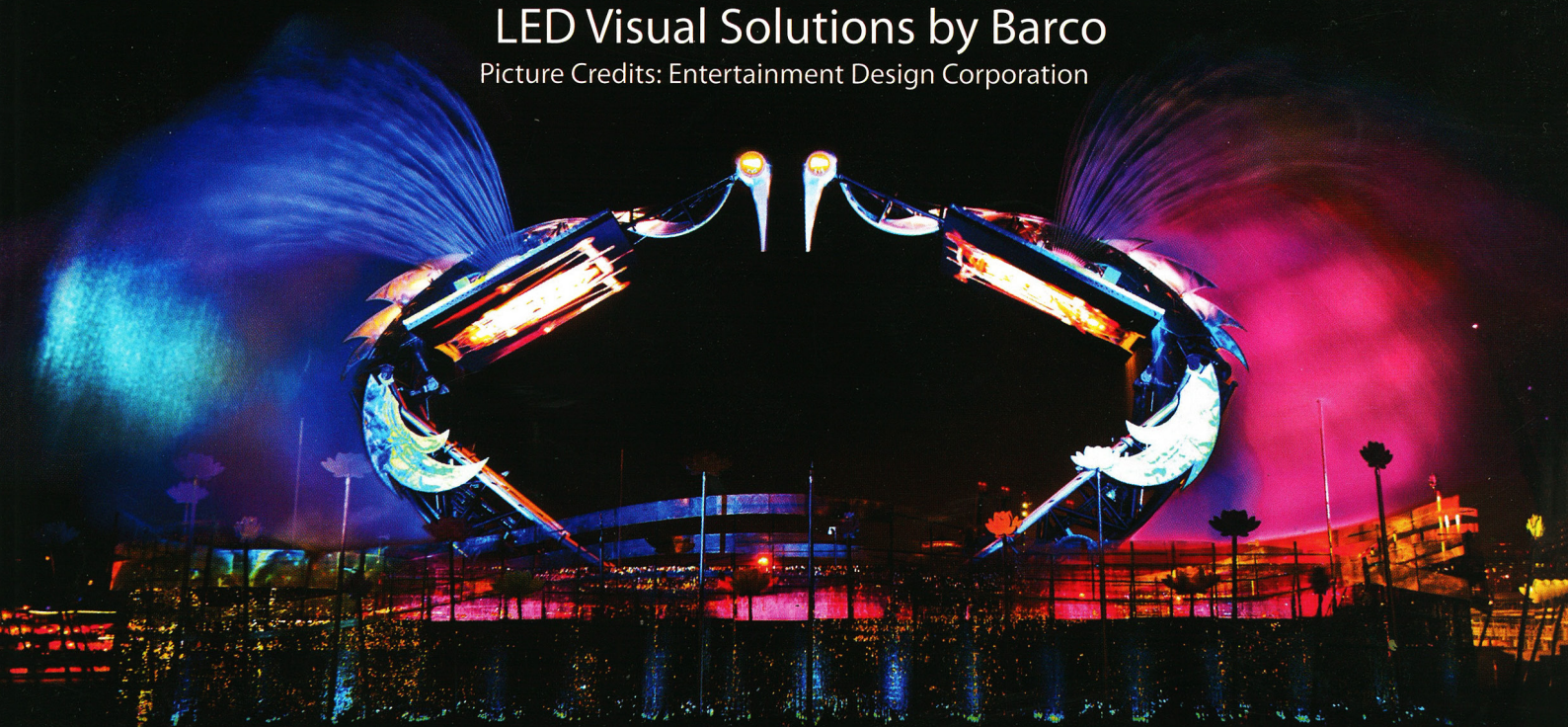
The World's Largest Animatronic Figures Takes Flight

CRANE D'ANCE

Singapore's Newest Global Attraction at Resorts World® Sentosa
Designed and Created by **Entertainment Design Corporation**

LED Visual Solutions by Barco

Picture Credits: Entertainment Design Corporation



The Crane Dance is the masterpiece of Emmy Award-winning Production Designer Jeremy Railton, who worked together with his partners to bring the Cranes to life.

Created by famed four-time Emmy Award-winning Production Designer Jeremy Railton and his partners, Crane Dance tells the story of two mechanical birds, whose undying love for each other transforms them into real birds. Not only does the performance excel in the animatronics of the gigantic birds, it also features a breathtaking audiovisual show.

Together with his team, Railton - based with Entertainment Design Corporation (EDC) - unveiled their latest creation in a dazzling spectacle at the multi-billion dollar Resorts World® Sentosa on 25 December 2010.

The Perfect LED Solution to Visualise a Challenging and Creative Idea

In starting off with the project, Railton contacted Barco, a leading company in groundbreaking outdoor lighting

equipment, as he was looking for an LED solution that could visualise his challenging creative ideas. One can imagine two massive 10-storey-tall and 500-tonne steel structures, suddenly lifting themselves out of their concrete embedded foundations and beginning a swirling, graceful dance. These unprecedented mechanical marvels then proceed to spread their majestic wings and mimic each other's movements in a seamless ballet for which their real-life namesakes are renowned.

Barco's FLX-24 LED modules and DX-700 image processing units were chosen to do the job. Contrary to traditional LED displays, the 24 mm FLX-24 is a truly freeform product; it can be shaped in any way. Furthermore, this is the world's only creative LED video pixel system that can run 256 LED video pixels on one string, considerably reducing the amount of necessary



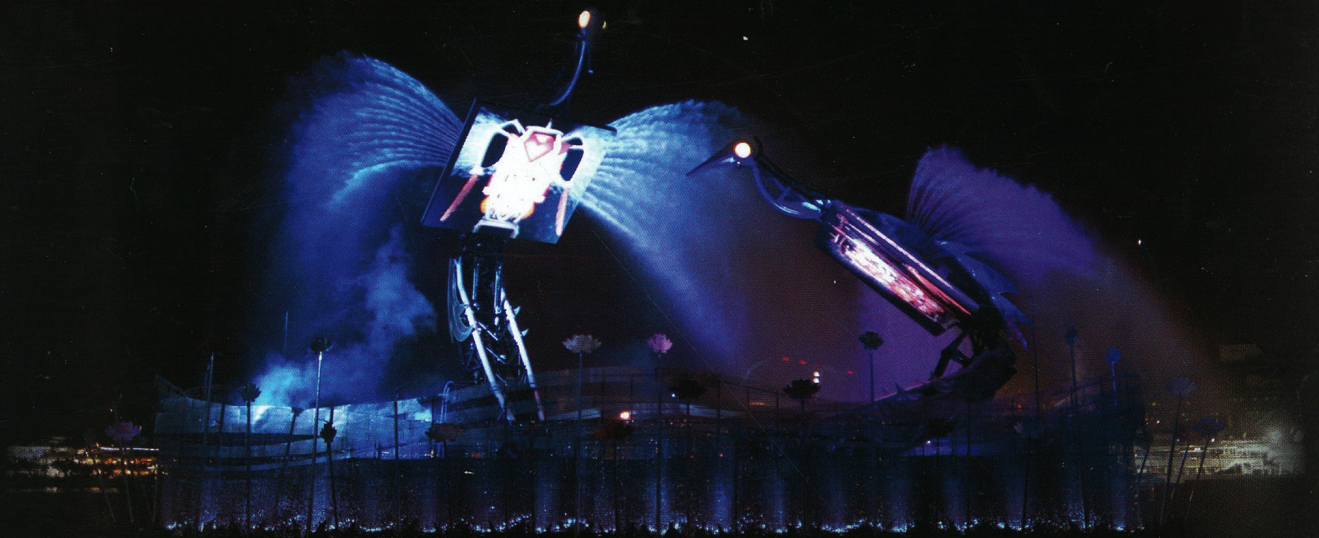
BARCO provided its groundbreaking LED solution that could visualise Railton's challenging and creative ideas.

cables and distribution boxes. Also, with this system, the control and power supply equipment can be located 70 metres away from the screen, thus giving the structure ample space in terms of height and freedom of movement and the most system critical parts to be installed centrally away from the moving Cranes.

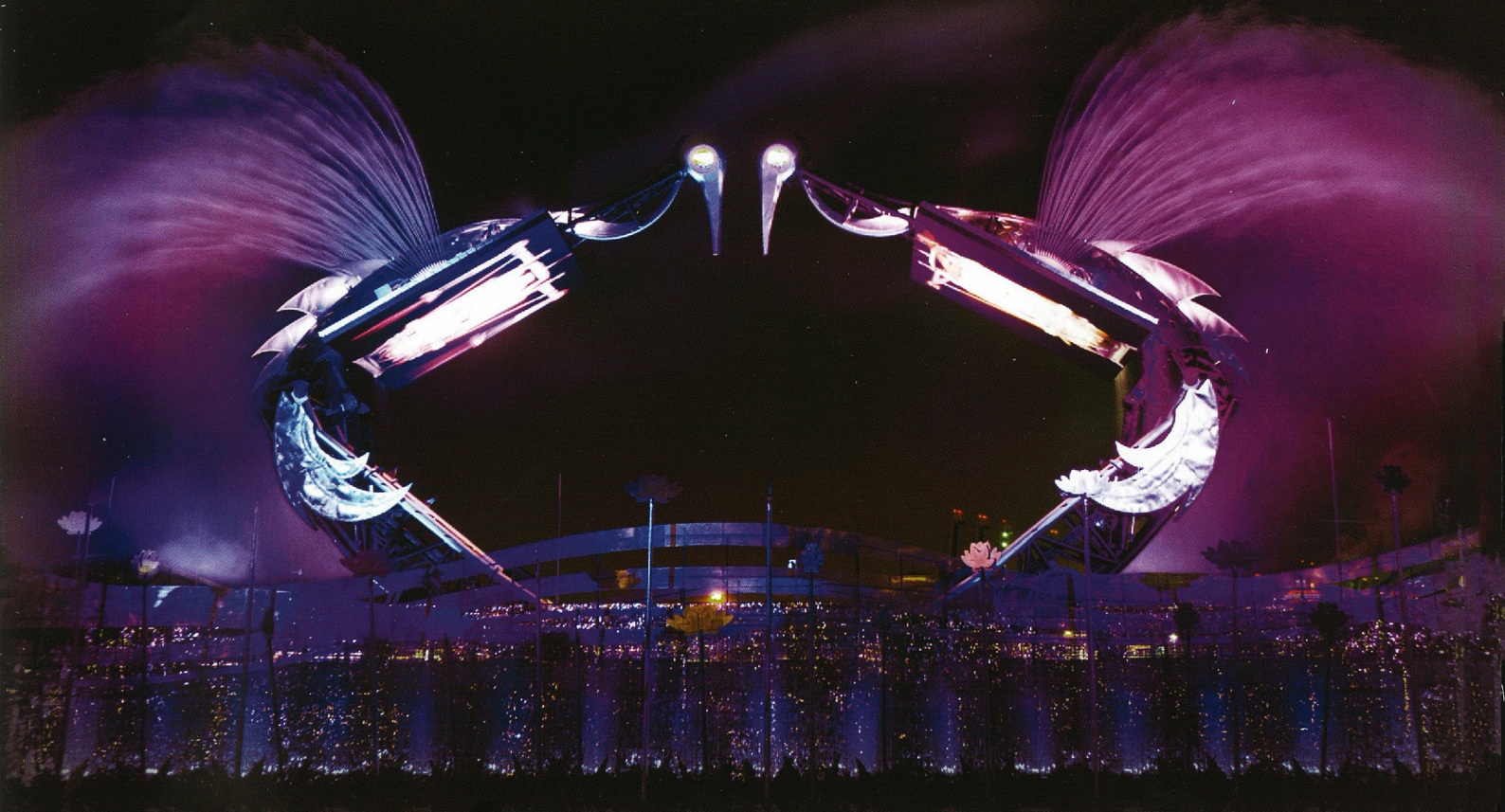
Each screen measures 8 metres by 8 metres, and contains a total of 65,537 pixels at a pixel pitch of 31.25 mm. Both the screens were more than bright enough for daylight visibility under the Singapore sun, exceeding everybody's expectations. Furthermore, two smaller FLX-24 screens are installed in the head of each Crane

to form the eyes. Only one unit processes all content of the two main screens and all four eyes of the Cranes. The DX-700, which is Barco's versatile multi-window image processing unit, is the perfect companion for the FLX-24, and it contributed greatly to the success of the show.

"The sheer enormity of this installation is truly amazing, even to me," said Railton, who has previously staged the Olympic opening ceremonies, live extravaganzas for the likes of Cher, and created the two largest digital screens in the world. "To see these fabulous birds transform with LED digital imaging, music, lighting and water



The Cranes swirl in grace and flap their wings, amid an amazing combination of LED digital imaging, music, lighting and water effects



Two giant water systems are attached to the back of the Cranes, enabling them to spray thousands of litres of sea water, one-hundred and twenty metres in either direction in a colourful and theatrical wing flapping simulation.

effects is really thrilling and combined with our story of how the power of love can infuse life into inanimate objects, we'll be sharing something really special with the world."

'Behaviour' of the Cranes

Having been in development for years, the Cranes are anything but "bird-brained." An ultra-sophisticated motion control system, similar to ones used for Japanese bullet trains or the most high-tech automotive assembly plants, enables the Cranes to gracefully dance with each other and engage in a beautiful mating dance ritual, like real cranes in the wild. Utilising specially designed digital technology for the eyes, the birds can blink, squint and react to each other's movement with character and personality. Instead of being fed worms, the 'stomachs' of the giant birds are literally filled with miles of electrical cables to integrate all the special effects.

Residing on a glittering man-made island, the Cranes are powered by four giant diesel engines, generating nearly 5000 horsepower—the equivalent of four speeding locomotives. Railton finds the wings of the Cranes to be particularly dramatic. Two giant water systems are attached to the back of the Cranes, enabling them to spray thousands of litres of sea water, one-hundred and twenty metres in either direction in a colourful and theatrical wing simulation. This creates the impression that the Cranes are flapping their giant wings.

Visitors to the Resorts World Sentosa will now enjoy the free spectacular show every night at the Waterfront, the strip where the sea surrounds the 121-acre resort.

About Entertainment Design Corporation

With headquarters in Venice, Calif., Entertainment Design Corporation (EDC) blends unsurpassed visual artistry, imaginative storytelling and technical wizardry to create environments and experiences that excite and amaze audiences around the world. Under the creative helm of visionary designer Jeremy Railton, EDC has provided the visual wonder behind some of the most significant artists, events and themed attractions in recent history. For more information, visit www.entdesign.com.

About Resorts World® Sentosa

Resorts World® Sentosa, one of the world's most extensive and expensive integrated resorts at \$4.9 billion, was built in a record time of less than three years. Under the resorts are: Four hotels, a shopping and dining strip known as FestiveWalk, Singapore's first Casino, together with the Resorts World® Convention Centre, which includes its Compass Ballroom, 26 function rooms and 1,600-seat Festive Grand theatre. Also in the list is Southeast Asia's first and only Universal Studios Singapore™.

Supporting the attractions are a 3,500-lot carpark facility, restaurants, retail stores, entertainment and public attractions that include Jeremy Railton's Lake of Dreams and Chamber of Treasures™.

Resorts World® Sentosa will soon open the world's largest Marine Life Park, its Maritime Experiential Museum, a destination spa and two remaining hotels with a total of 500 rooms in its Phase Two development.



An ultra-sophisticated motion control system enables the Cranes to gracefully dance with each other and engage in a beautiful mating dance ritual, like real cranes in the wild.

The EDC Team

EDC President/Lead Show Designer
Producer & Project Director
Senior Project Manager
Senior Technical Director
Crane Choreography

Show Director
Composer
Technical Director
Technical Director
Technical Director
Project Coordinator
Sound & Video Production
Animation Production

Project Lighting Designer
Lighting Designer
Site Lighting Designer
Lighting Designer
Lighting Designer
MA Programmer
MA Programmer

Crane Steel Contractor
Project Manager
Technical Director
Concept Engineer

Lighting Integrator & Scenic Supplier
LED Screens Supplier
Crane Show Control System
Audio & Video Control Integrator
Pyro
Barge Structure and Submarine Cables Manufacturer
Water Wing Systems
Crane Hydraulics Systems
Lighting Equipment

Video Equipment:
Audio & Video Playback:

Jeremy Railton
 Edward S. Mark
 Chris Homsley
 Bob Chambers
 Doriana Sanchez

John Rust
 Paul Mirkovich
 Adela Kuehn
 Chris Gile
 Rob Palmer
 Andrew Rubio
 Mammoth Sound & Video
 George Johnsen

Patrick Woodroffe
 Adam Bassett
 Lightswitch Los Angeles
 Mike Lagrotteria
 Bryan Branchik
 Tim Routledge
 Demfis Fysscipulos

LYS (Patrick Lai)
 Ahamad Mohideen
 Phil Maddox
 McLaren Engineering - Mal McLaren

ATECH
 BARCO
 Birket
 EAS
 Supplier Glorious
 McConnell Dowell
 OASE
 PH
 Color Kinetics C-Splash
 Vari-Light
 Clay Paky
 Grand MA Control

Barco LED
 Medialon