

## 180 Heads Are Better Than One

*A classic case of collaboration behind the scenes at Cirque du Soleil*

Since 2005, the performers of Cirque du Soleil's *KÀ* show in Las Vegas have been engaging audiences with acrobatic feats, martial arts, puppetry and multimedia entertainment. What makes the production different from previous Cirque du Soleil extravaganzas is the pivotal role hydraulics and motion control play in the overall experience.

With a \$190 million budget, the *KÀ* production features a 140-ton, cantilevered stage where airborne artists flip and twirl their way through fight scenes, all in the name of epic storytelling.

Known as the Sand Cliff Deck, the main staging unit is supported by long, hydraulic cylinders, allowing the stage the flexibility to rise, rotate and spin. On its surface, electronic sensors coordinate computer-generated effects in step with each artist as though the stage itself is a supporting character in the production.

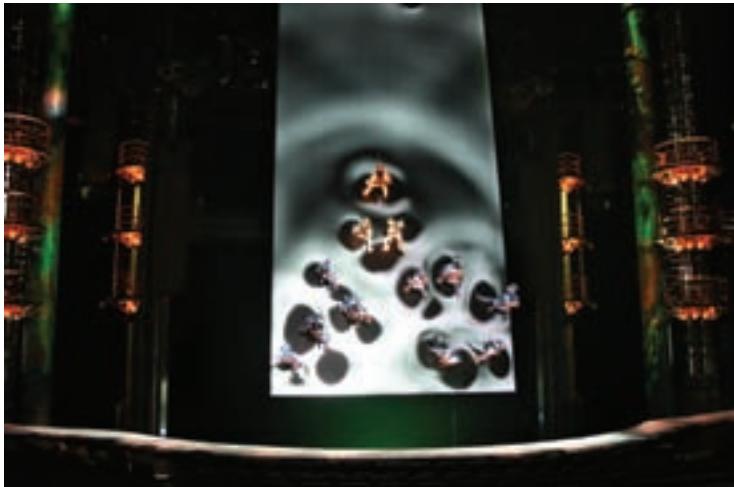
On any given performance night, there are more than 80 artists and 100 technicians working in unison on the show. With an automation department on hand to maintain pneumatic, hydraulic, electrical and computerized controls for lifts, winches, gears and motor drives, things tend to get hectic behind the scenes.

James Tomlinson, senior project manager of Cirque du Soleil, likens the communication system during certain portions of the show to "calling a horse race on the home stretch."

Communication is the No. 1 priority as the stage manager directs the timing of each event on and off the stage, according to Tomlinson. With more than 200 computer-controlled axes of motion, it's imperative that the machinery is predictable at all times, and the technicians are attentive if adjustments need to be made.

"Many of our scenes involve artist and machine in intimate proximity, and many of the artists use the machinery to expand their performance," Tomlinson says.

Thankfully, the men and women responsible on the



control boards are experienced when it comes to entertainment engineering.

"We have a great deal of experience conceiving and executing show machinery, and we take full advantage of our historical experiences in planning new designs," Tomlinson says.

Safety, above all else, is the top priority. Preventive maintenance is done regularly and the show utilizes a database that tracks system failures and schedules periodic inspections and maintenance routines.

That's not to say the show is void of the occasional hiccup.

At a presentation at the IFPE 2008 conference, Tomlinson spoke of a performance where an understudy was struck in the thigh by an automated 18-inch steel peg because she was out of position. Although she

walked away with only a bruise, it was a reminder to the entire production staff that no amount of preparation can dictate every possible scenario once the curtain goes up.

"We want to present new things to our audiences, and we are regularly exploring the physical limits of what we can do safely and reliably on stage," Tomlinson says.

With more than 470 performances per year, *KÀ* has successfully taken the Cirque du Soleil franchise in an entirely different and exciting direction.

Tomlinson says the company has several new shows in production that incorporate even more advanced technologies and the desire to "one-up" the previous version will never fade.

"The initial challenge for the creative team on a show like this is to assemble their ideas into a cohesive timeline that utilizes the capabilities of the artists and utilizes the equipment to support the artistic intent," Tomlinson says.

"There is no point in having fantastic machinery if it does not contribute to the idea, theme or story we are trying to convey."