



Fri, June 25, 2010, Singapore

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<b>KLCI</b>	1,326.45	+0.58
<b>HSI</b>	20,690.79	-42.70
<b>NIKKEI</b>	9,737.48	-190.86

### US Indices

<b>Dow</b>	10,152.80	-145.64
<b>Nasdaq</b>	2,217.42	-36.81
<b>S&amp;P</b>	1,073.69	-18.35
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### Entertainment

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## Back to the future

**Advanced robotic technology brings dinosaurs back to life in a money-spinning arena spectacle that's changing the face of animatronics and 'live' entertainment, reports DYLAN TAN**

EXTINCT giant lizards will be heading our way when Walking With Dinosaurs: The Arena Spectacular stomps into Singapore at the end of the year. Based on the popular BBC documentary of the same name, the multi-award-winning 'live' show takes animatronics - a mechanised form of puppetry - to bold new levels.



'Alive and growing': A Tyrannosaurus (above) and an Allosaurus (next), two of the 20 life-sized dinosaurs created by the makers of 'WWD'

Using cutting-edge technology, the makers of the show have recreated 20 life-sized dinosaurs - including the T-Rex and Brachiosaurus - all of them ultra-realistic in appearance and controlled through state-of-the-art animatronics, to tell the story of the dinosaurs' evolution and demise.

It's a show of unprecedented scale that's never been attempted in the 'live' entertainment scene, and even

though animatronics is already extensively used in movies and theme parks, it's the first time the technology has been so extensively employed through the entire duration of a 'live' show.

### Unprecedented

Mark Avery, executive producer and CEO of the show's promoter AEG Themestar, said: 'Animatronics tell the entire 100-minute story of the dinosaurs' 200-million-year reign in Walking With Dinosaurs (WWD).'

'When I was first approached to do the show, I thought they were crazy and I said: 'No thank you',' admitted director Scott Faris, who didn't believe the show's creators were able to produce such life-like dinosaurs through animatronics. 'But the moment I walked into the workshop in Melbourne where they were working on the dinosaurs and saw one jumping around, I was instantly hooked because it looked so realistic!

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'This show is as unique as it gets because nothing like this has been done with animatronics on this scale,' Mr Faris added.

The use of animatronics in entertainment has kept the technology advancing rapidly through the years. But key robotic experts sense animatronics will gradually become less whimsical over time as it combines with other forms of robotics to find its way into our everyday lives through mediums such as digital interactivity.

Xie Ming, associate professor at the School of Mechanical & Aerospace Engineering, Nanyang Technological University, has been doing research on robotics for more than two decades. Dr Xie noted how animatronics overlaps both real and virtual space and has contributed to the evolution of consumer culture, not just in technically advanced pop culture entertainment such as WWD, but also in consumer electronics such as Sony's AIBO - a robotic toy dog. He also pointed out that in recent years, the focus of animatronics has moved from its origins in imitating animals to now imitating human beings (androids).

It's this significant shift from what was once a frivolous use of robotic technology that's also made various government bodies here sit up and take note of the extensive research in robotics that's taking place right here in our own backyard.

Desmond Ng, manager of Interactive Media & Games at the Media Development Authority Singapore, said the organisation was actively on the lookout to support and provide funding for companies dabbling in the area of interactive digital media and augmented reality.

Dr Xie pointed out that the National Research Foundation and Spring Singapore have various funding schemes to nurture innovative ideas in robotic technologies, particularly in the development of elder-care robots which can help us overcome the potential problems we might face with an ageing population.

**Human interaction**

Adrian David Cheok, director of the Mixed Reality Lab (MXR) at the National University of Singapore, leads a team of over 30 researchers and students studying social robotics which looks at human interaction with robots. One of its projects, Lovotics, examines the feasibility of human-to-robot or even robot-to-robot romantic relationship.

'If you look at something like animatronics, the cutting edge of that technology is how it combines with social robotics to produce something useful such as making robots that are realistic and lifelike so we are not afraid of them and would be more willing to welcome them into our homes,' Prof Cheok said.

For the creators of WWD, the use of animatronics has also moved beyond the purpose of purely entertaining the masses. Embedded in the cinematic realism of the dinosaurs is a deep educational value that draws an eager-to-learn seven-year-old to it the same way it draws a curious 70-year-old.

'It's the sum of the whole,' Mr Avery said. 'People are flocking to this because of three things: Firstly, the technology because there's nothing like it in any other shows; secondly, it's authentic because you'll look at it and believe dinosaurs have come to life; thirdly, there's a huge appetite for education-based entertainment. WWD takes all that and puts it together in a ground-breaking show.'

The US\$20 million production has been a runaway success everywhere it has toured. To date, more than 5.2 million people have watched it over the past three years. It's presented in more than 40 languages in over 200 cities and grossed over US\$275 million to date.

In January this year, Pollstar named WWD the fourth highest-grossing worldwide tour of 2009, just behind U2, AC/DC and Bruce Springsteen; no small feat for an act that only has science, history and robotics to

draw a crowd.

'That was an extraordinary accomplishment from a promoter's point of view because our ticket prices cost up to half of what those other acts above us were charging,' revealed Mr Avery. 'And the listing is based on gross revenue so if we were charging what they were charging, WWD would have taken top spot.'

Mr Avery feels that despite the cost and complexity of staging a large-scale and technically advanced show such as WWD, the gamble has paid off to prove the sceptics wrong that its business model was not viable.

'What WWD has done really is to give producers the confidence to spend more money on new innovative products that engage a whole array of technology and approaches that haven't been done before for 'live' family entertainment,' said Mr Avery.

'We've set a trend that other producers are examining closely because nobody thought we could pull this off. This model is now being looked at and studied by many producers including Jeffrey Katzenberg of Dreamworks to see how they can replicate this. I don't say it lightly but it's definitely a watershed moment and it will change the landscape for touring any live show,' he said.

*'Walking With Dinosaurs: The Arena Spectacular' will be staged at the Singapore Indoor Stadium from Dec 1, 2010. Tickets from \$38-\$148 are on sale at Sistic outlets*

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