

Industry: Leisure /// Animatronics

Products Used: FX PLCs

PLCs in the Jurassic

One hundred million years ago dinosaurs roamed the earth. Now they move again with the aid of Mitsubishi Electric's FX PLCs.

At The Natural History Museum's "Dinosaur Safari," visitors can travel back in time to the Jurassic and Cretaceous eras and experience a lifelike display of moving dinosaurs. Controlling the visitors' journey through the special exhibition is a Mitsubishi Electric FX PLC. The PLC controls all aspects of the display including initiating an audio voice-over to accompany the journey through the exhibit.



Using its integral timers the PLC opens the exhibition entrance door automatically as the visitors approach and guides them along to the centre of the display which is a cinema. During the closing moments of the video shown in the cinema, the PLC activates the final voice-over sequence as the screens drop down.

After the short presentation, the visitors walk through the rest of the "Safari," meeting realistic dinosaur models in their prehistoric environments. The finale part of the tour passes by a life-size mechanical model of a Tyrannosaurus-Rex. The FX controls all the complex movement sequences of the dinosaur's head, body, limbs, jaws, claws and even its eyes. To allow public interaction a special control panel linked to the PLC allows members of the public to move any part of the dinosaur.

Application story first released August 1999 by Mitsubishi Electric UK

The dinosaurs' creator, the Kokoro Company, uses a patented skin construction and robotic mechanism animated with pneumatic valves, to produce very authentic replicas. By instructing the pneumatic valves to open and close at a certain time and speed in a defined sequence, the PLC ensures the dinosaur's movement looks natural.

John Furlong of the Museum stated, "The FX's compact dimensions means it fits neatly into the control panel and its built-in power supply means we don't have to worry about bulky transformers when we take the exhibition to other countries. Mitsubishi's simple programming language was also a major benefit. Over a few days we had to learn how to adapt and modify the PLC programmes Kokoro had supplied to meet our specific demands, but even starting from zero knowledge of PLCs we still didn't have any problems with the FX."

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John Furlong
The Natural History Museum

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It is true that, when Mitsubishi launched its FX PLCs, it expected new applications to result from the FX's versatility and compact size. However, it did not foresee its PLCs recreating the Jurassic era in twentieth century London.