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DANCES WITH ROBOTS

THE WORLD'S FIRST ROBOT PARTY

With a minimum height requirement of just 4 ft, ***Dances with Robots*** is the all-family attraction that gives young and old the chance to take part in their first "Robot party" fun together.

The club groove experience is no longer just for adults thanks to ***Dances with Robots***: children can also enjoy the futuristic dance floor fun. The remixed ***Dances with Robots*** from **Martin Solveig** features ten 23-ft-high metal robot arms that pull off **a vast range of combined movements in six directions** on the dance floor. And it's on these that visitors take their seats in pairs to the sound of Martin Solveig's hit single "Hello". The footbridge leading to the robots comes into view…

The ten robot dancers swing into a vigorous, airborne dance routine, driven by supercharged club vibes in time to one of the five hits from Martin Solveig's specially compiled playlist. Once they are safely buckled up and nestled in, visitors are tipped, flipped, spun and swung every which way into a funky whirlwind of dizzying excitement. Here and now, man and robot are dancing together. The show is also as spectacular as it is varied up on the viewing balcony, as spectators discover a new dance routine and a different visual experience for every hit song.

Robot clubbers take centre stage

The robots have been taken from automobile production lines to become dancers at Futuroscope, where each is dressed in a 20-ft-diameter reflective dress.

A system of lenses is used to diffract and amplify the light sources located under the dresses. The mobile material changes colour depending on the angle from which it is seen. The robots themselves are coated in a paint containing the same type of pigments that are used in metallic car paint, and each of their edges is emphasised by black paint.

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ROBOTHESPIAN, THE FRIENDLY DOORMAN WELCOMES VISITORS TO THE SHOW

This year, Robothespian makes his first visit to France, to Futuroscope to be precise, where visitors can meet this technological treasure at the entrance to ***Dances with Robots*** before enjoying a show experience that is as rewarding as it is entertaining.
Robothespian was designed by British company Engineered Arts, run by Will Jackson, **and represents the pinnacle of cutting-edge robotics**. Its success has seen it installed in many countries, including by NASA to interact with visitors to the Kennedy Space Centre, and by the national science museums of Spain, Australia and Macau.

A technological goldmine and a triumph of engineering

Robothespian the humanoid robot is communicative and eloquent, greeting visitors to Futuroscope on the door of ***Dances with Robots*** with the same courtesy as C-3PO, against a backdrop of colours that is all Martin Solveig. This life-sized robotic creature was **designed and built in Cornwall** by British company Engineered Arts; **it is made almost entirely of white aluminium, is operated by compressed air**, and has moving eyes. Its head is fitted with three processors and a video camera, which the operator uses to see what the robot sees in real time and to move it accordingly. Alternatively, the humanoid robot can be manoeuvred via a touch-screen interface, allowing its operator to program a series of movements, speeches and expressions, as well as to record sequences. Robothespian communicates in French and English at Futuroscope, but he can speak 15 languages, including Mandarin, Chinese and Hebrew, alter its vocal pitch and express a range of tones. It has a cultivated **sense of humour, and can recognise and copy human gestures**. This artist, actor and singer communicates with visitors to Futuroscope by interacting through words and facial expressions.

Robothespian – technical data

- 6 servomotors control the head and body movements.
- 10 mechanical muscles with feedback for arm movements.
- 1 ultra high-speed servomotor for mouth movements.
- 8 mini pistons for finger movements.
- 5 multicore processors for motion and compressed-air valve control. All the position sensors are Hall effect devices accurate to 0.1 degree.
- 2.8 GHz Arm 9 processor for eye-screen and RGB face control.
- LCD screens for eyes, high quality 20 W audio output.
- Head-mounted embedded camera with video streaming.
- Motherboard with Atom 1.6 GHz processor and 32 Gb SSD
- Aluminium chassis, remote control touchscreen console.

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DANCES WITH ROBOTS DATASHEET

Building floor space: 21,500 ft²

Dance floor surface area: 13,616 ft²

The 10 robots: each robot is 7 metres tall and moves along six axes, can produce countless combinations of moves, accelerate up to 3G (almost as much as a Formula One car) and lift a 500 kg payload.

Playback time of hits in Martin Solveig's playlist: 60 to 90 seconds each. The video clips and graphics seen from the footbridge are played by a bank of six overhead video projectors.

Capacity: ***Dances with Robots*** can take 500 visitors per hour on the robots and the same number on the overhead viewing platform.

Thrill levels of the "dances" on the robots: choice of three thrill levels, from low for younger children to high. Visitors tell the ride operator which speed they want to dance at when they get on the robot arm (except for children between 4 ft and 4 ft 8 inches, who go at the lowest speed).