In the Spotlight

by Urszula Wiączek - report from Paris

The robots will rock them all

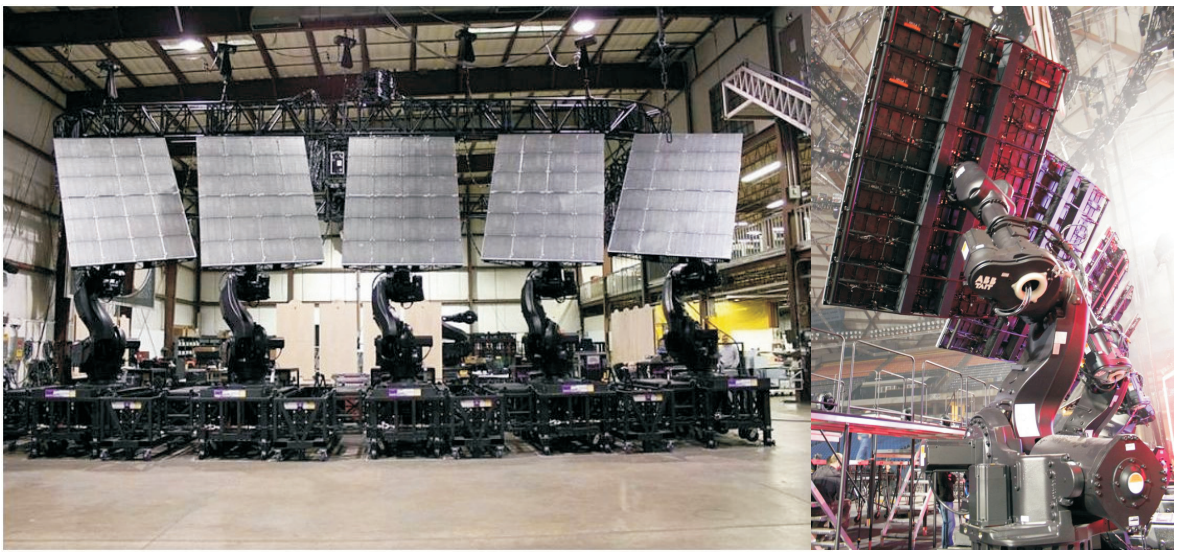
We find robots used in the industry assembling cars, electronic devices or in the surgery room as common. We accept humanoid robots as movie heroes like R2D2 or C3P from "Star Wars". But nobody could imagine robots as rock stars! Alas! On February 19th in Seattle`s Key Arena five huge industrial robots equipped with five large LED screens debuted on the stage accompanying Bon Jovi`s "The Circle Tour".

The concept of moving screens is a RoboScreen™ patented technology developed by Andy Flessar who is the founder and president of Robotic Arts of Las Vegas in Nevada. He started to work on robots in mid 1990s and in 2006 completed a robotic programming, design and operation programme at the ABB in Auburn Hills in Minnesota. Previously he constructed outdoor panels placed on building walls though then he developed the idea of a graphic screen connected with a robotic arm. Flessas provided a software to animate the movements of the ABB robots: first the desired movement is established then Robot Animator channels the code into ABB`s robot controller and the robots replicate the movement on the stage.

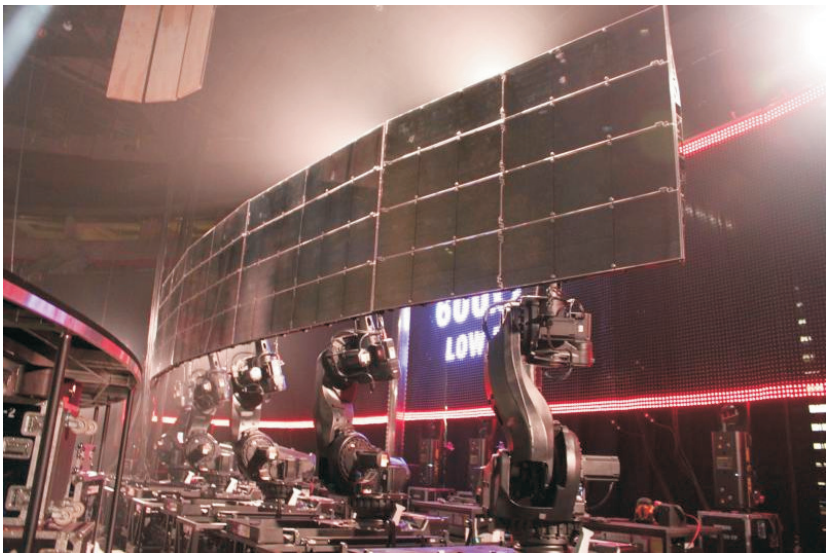
"We are able to take the ABB robots out of the factory and turn them into rock stars through the power of the ABB IRC5 controller and its ability to concept the precise movement established in Robot Animator" said Flessas.

The unique concept and physical presence of the IRB 7600 robot attracted Jon Bon Jovi and the tour directors. They were overwhelmed by elegant choreography and the visionary application of the installation choreographed precisely with the music. "The collaboration with Robotic Arts and Bon Jovi is certainly one of the most unique applications we have been involved" said Joe Campbell, vice president of sales and marketing, ABB Robotics, North America.

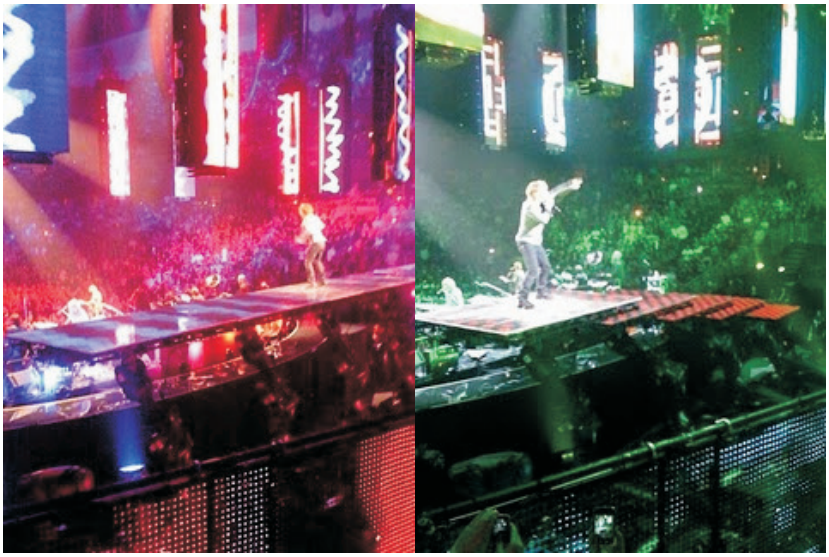
Five ABB7600 huge industrial six-axis robots used in "The Circle Tour" use inverse kinematics to create robotic motions. Each robot has a 2x3 metres large and 320 Kg heavy LED video panel attached to the articulated robot`s arm.



All five robots can create one large screen or split into five separate screens, each one of 24 individual sub-panels arranged in a six column by four-row grid. They are positioned toward the back of the stage and are an integral part of the concerts displaying approximately 85% real-time video footage of the show from multiple cameras set up on the stage and in the audience and pre-programmed 3-D computer animations. Their movements are coordinated at 30 frames per sec using the time code to synchronize the real time to the beat of the music. During the show the robots are operated by Gordon "Gordo" Hyndford.



The panels are covered by plexi glass to protect their surface, when they are positioned horizontally creating steps and a catwalk on which Jon Bon Jovi is tapping 4 meters above the stage.



"Industrial robots being a part of a major concert tour are unprecedented. They provide a big show element to the performance and help present the complete entertainment experience that is synonymous with the Bon Jovi brand" said Flesssas.

Tait Towers, the tour production company in Lititz, in Pennsylvania, did the robots design and the system that allows the RoboScreens to fit seamlessly into the touring platform.
"The Circle World Tour" will last two years.

More information on: http://watch.discoverchannel.ca/clip307254#clip307254