



Royal Opera House



As part of The Royal Opera House's £214million restoration and modernisation programme, Street CraneXpress Ltd was contracted to design, manufacture and install an overhead gantry system, for changing heavy cloth backdrop scenery and undertaking stage lighting work.

Weighing 36Tonne and with a span of 28m, the bespoke gantry system enables a team of up to twelve stage technicians to traverse along the full depth of the stage and mechanically manoeuvre cloth backdrop scenery. This task was once carried out manually by a much larger team of people, working on a cramped and often cluttered stage.



Travelling at a speed of up to 18m/min per second, the gantry has a pay load capacity of 20Tonnes, a work surface area of 151sq m and can be controlled either onboard or remotely from the stage.

A unique feature of the gantry system is a mobile access platform, which is fitted to one of the gantry structural beams and is designed to accommodate two people.

This access platform is able to travel 12m ahead of the main gantry, and can extend 5m above or 13m below the gantry to access scenery. This utility allows stage technicians to carry out essential work on the entire stage lighting system, with relative ease and safety.



The system also incorporates a total of six 1Tonne chain hoists in two banks of three, mounted to the underside of the gantry, that are capable of lifting and transporting heavy sections of scenery. These hoists can either be operated in unison or independently of each other.

The gantry system provides twelve access points, six on either side of the gantry gallery, each of which are fitted with automatic safety gate systems.

Essentially the new gantry system provides The Royal Opera House with a total solution to its unique mechanical handling problems. The new system is far safer, more flexible, requires less manpower and greatly enhances the operational efficiency of stage management.

One of the most striking technical features of the gantry is its self-correcting track alignment system. There is a 550mm break in the track to allow for an acoustic door to be slid in, which separates the performance stage from the rear stage.

In order to allow a smooth transition across the space left by this door, the end carriages are fitted with multiple wheels across their full breadth. This ensures that the end carriages are always supported by the additional wheels even as the end carriage spans the gap.