

Cork School Of Music

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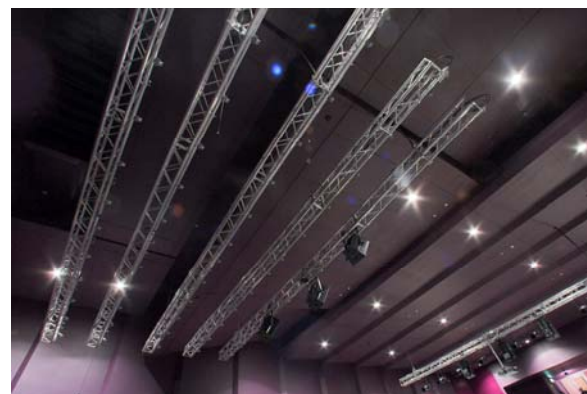
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J&C Joel has designed, fabricated and installed 7 movable acoustic panels in the main Curtis auditorium at the prestigious new Cork School of Music in Ireland.

The 73 million Euro state-of-the-art facility, designed by architects Murray Ó Laoire, is sited on the banks of the River Lee and built on the footprint of the old CSM building. It gives Cork a world class academy and centre of excellence which will initially attract up to 2,400 (400 full and 2000 part time) students, picked from among the most talented young musicians around the globe.

The J&C Joel team led by Tony Griffiths, played an active role in ensuring that the 420 seat Curtis Auditorium has the flexibility to provide exactly the right acoustic environment for anything from piano recitals to full orchestral performances to vocal and choral works.



J&C Joel's biggest challenge was presented by their late appointment to the project. By the time this happened, all the AC, ventilation, heating ducting, drainage pipes, containment trays and other plant and services were already in place up in the plenum – the sound proofed concealed roof space above the auditorium.

This is where all the suspension and movement control equipment required for the 7 panels had to be installed - comprising a complex network of diversion and drop pulleys, utilizing 13 J&C Joel Pilewind winches and 56 suspension cables attached to the acoustic panels.

The panels were all constructed and installed by J&C Joel. The largest and most impressive single one measures 16 square metres, is vertically raised and lowered, and sits directly over the auditorium's seating area.

Weighing 13,000 Kgs, this is raised and lowered by 24 separate steel cables terminating back via an arrangement of diversion pulleys connected to a series of head pulleys.



Cable termination is via a 6 metre high counter-weight cradle located behind the auditorium's acoustic side walls. The challenge here for J&C Joel's installation team of Dan Fleming and Sean Kelly was that the acoustic wall was already built and the allocated 1m deep by 2 metre wide space was an extremely tight one in which to work. The idiosyncratic shape of the space also made loading the cradle weights during installation into a galvanizing task.

To allow access for maintenance staff, and to handle the `out of balance cradle heavy load,` a 2,000kg electrically operated J&C Joel Pilewind winch unit is installed to controls the load and speed of operation.

The remaining Curtis Auditorium stage and floor-space is covered by the 6 other acoustic panels - the smallest of which is 4 metres square.

To create the correct `acoustic effect` these panels had to travel up and down vertically and be able to tilt to up to 30 degrees. This is achieved using a pair of 1,000kg electrically operated J&C Joel Pilewind winch units per panel. Linked via a control station, the Pilewinds can either work together in standard raise/lower format, or independently to tilt the panel.



Millimetre tolerances for each panel are measured via encoders mounted on the ends of the Pilewind head pulleys. The encoders count the revolutions of the pulleys and calculate the height of the panel from the auditorium floor, enabling the operator (located at the rear of the auditorium) to set the panels' exact height and angle. This is all done via J&C Joel's discreetly located custom control panel, which gives the total flexibility required for specific performances.

"Working under these conditions was no mean feat" states Griffiths, adding, "The technical conundrums were solved by agile design, determination and plenty of lateral thinking. The successful conclusion of what appeared at first sight as a logistical nightmare definitely illustrates our strong teamwork and ability to find positive solutions in the face of difficult odds".

Content

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