

Case Study: €60m Cork School of Music – Union Quay, Cork



“Something miraculous has been achieved: an acoustic which does justice to all performing musicians!”

Mary Hegarty, World-renowned Opera Singer



Cork School of Music, Union Quay

From the €1.35bn National Development Plan funding earmarked for the provision of educational facilities to 2013, this is the first educational PPP development undertaken by the Irish government. Opened on 17 September by Minister for Education & Science, Mary Hanafin, this landmark building continues the Cork School of Music’s commitment to excellence in nurturing the creation of music, speech and drama. Located on Union Quay in Cork and with an area approaching 13,000m², Cork School of Music is the first purpose built facility of its kind in Ireland. The school initially accommodates 400 full time and 2,000 part time students.

Acoustic details

This assignment was a unique opportunity for AAD with our design team colleagues to provide a world-class facility, the scope of which includes a 400-seat auditorium, 100-seat theatre space, 46 tuition rooms, recording studio with editing suites, and a dance studio with classrooms, lecture facilities and library. At the heart of the building is the Curtis Auditorium; here the brief was to provide a flexible resource suitable for activities ranging from a small ensemble rehearsal through to performances to a 500-seat audience, whilst providing an excellent room acoustic environment for all. In conjunction with project architects Murray O’Laoire, AAD designed the hall including variable acoustic elements, the highlight of which is a movable ceiling that can be raised or lowered through a range of some 4m in order to vary its volume by up 40%; other features include sound diffusing panels and variable wall panels delivering the flexible acoustic element to the client’s brief.

Curtis Auditorium

Close attention to detail in the design has paid off and the Auditorium has received wide praise for its excellent acoustic response. Featuring in the opening ceremony in September 2007, world-renowned performers, including opera star Mary Hegarty and the Carducci Quartet, were

enthralled by the room acoustics, declaring it a very rewarding venue in which to play and perform. Indeed, Mary considered the acoustic environment stands favourable comparison with some of the best opera houses in the world. "Performance spaces that are acclaimed by instrumentalists often don't suit singers or choral groups," enthuses Mary. "In the Curtis Auditorium something miraculous has been achieved: an acoustic which does justice to all performing musicians! It is amazing: fabulous natural acoustics with the added benefit of controllable variations and a gorgeously individual aesthetic. Oh, what a joy: a performance space in Cork that is world-class."

And music critic Frank McDonald of the Irish Times, 7 September, also considered the acoustics worthy of praise in his review of an early performance.



Curtis Auditorium



Piano Tuition Room

The Curtis Auditorium is now the home of the Irish Chamber Orchestra who performs regularly there. Irish broadcaster RTE is using the hall for live broadcasts and it is expected that in the near future the Naxos label will use the Auditorium for a series of recordings. It should not, however, be forgotten the facility is a 'school of music, and as such must provide an inspiring environment within which staff and students can work. To this end, 46 tuition rooms have been provided, each with a dedicated tutor, designed to provide a well lit, quiet and intimate space within which to teach music. Many of the rooms are large enough to accommodate two concert grand pianos.

The new school is also a technological tour de force; it combines the teaching of traditional music along with the very latest in electronic techniques, with several rooms dedicated to the purpose. This extends to the provision of a recording studio suite, including a professional quality live room, control room and edit suite. The live room provides a controlled and well balanced acoustic without resorting to an excess of sound absorption, and has been praised for its natural qualities, allowing recording of classical music to a standard allowing the school to produce its own CD recordings.



Live Room

Technical Overview

Space	Fabric Sound Insulation	External Noise Intrusion Limit	Mechanical Services Noise Level Limit	Mid-Frequency Reverberation Time
Rehearsal Hall	R' _w 70 dB	L _{A10} 20 dB	NR 20	1.2s to 1.8s
Black Box Theatre	R' _w 65 dB	L _{A10} 20 dB	NR 25	0.8s
Movement Room	R' _w 55 dB	L _{A10} 30 dB	NR 30	1.2s
Tuition Rooms	R' _w 70 dB	L _{A10} 25 dB	NR 25	1.0s
Percussion Studio	R' _w 70 dB	L _{A10} 25 dB	NR 25	0.7s
Double Bass Studio	R' _w 70 dB	L _{A10} 25 dB	NR 25	1.0s
Organ Room	R' _w 70 dB	L _{A10} 25 dB	NR 25	1.0 s
Lecture Theatres	R' _w 55 dB	L _{A10} 25 dB	NR 30	0.8s
Music/IT Labs	R' _w 45 dB	L _{A10} 30 dB	NR 35	0.8s
Electronic Music Centre	R' _w 55 dB	L _{A10} 30 dB	NR 30	0.8s
Recording Studio				
- Live Room	R' _w 70 dB	L _{A10} 15 dB	NR 15	1.0s
- Control Room	R' _w 65 dB	L _{A10} 20 dB	NR 20	0.4s
- Edit Suite	R' _w 65 dB	L _{A10} 20 dB	NR 20	0.4s
Offices	R' _w 35 dB	L _{A10} 35 dB	NR 38	n/a
Boardroom	R' _w 45 dB	L _{A10} 35 dB	NR 30	n/a

All Photographs - Anew McKnight, Murray O'Laoire Architects

Client:	Cork Institute of Technology
Finance, Building & Operation:	Hochtief PPP Solutions
Designer:	Murray O'Laoire Architects
Structural Engineer:	Malachy Walsh & Partners
Services Engineer:	Buro Happold
Main Contractor:	John Sisk & Son
Acoustic Consultant:	Applied Acoustic Design

Link to Cork Institute of Technology: www.cit.ie/index.cfm