VICTORIA RESPLENDENT

RENOWNED THE WORLD OVER FOR ITS PIONEERING construction projects and future-thinking approach to design, Singapore rarely springs to mind when it comes to heritage projects. Yet like every great city, it has its share of historic architecture, few examples of which stand as proudly as the Victoria Theatre and Concert Hall.

The two buildings, linked by the famous clock tower that stands between them, have borne witness at first-hand to every significant moment in Singapore's development, from the colonial years to the horrors of World War 2. Over the course of more than 150 years, they have acted not only as a home to the arts, but as a town hall, a hospital and even a war crimes court.
Their current status as icons of the city's cultural and artistic development are beyond question. It is no wonder therefore that since June 2010, proud Singaporeans have paid careful attention to the enormous renovation taking place at the site.

For while some heritage renovation projects merely update elements of the buildings in question, the work undertaken within the Victoria Theatre and Concert Hall has been fearless in its reinvention of both spaces. In a truly back-to-bricks project that combined the vision of W Architects' Mok Wei Wei, the excellence and ambition of consultant Arup, and the technical expertise and devotion to detail of Electronics & Engineering Pte Ltd (E&E), everything inside the buildings has changed. The results are spectacular.

Even the exterior of the complex has a surprise for new visitors – the central passageway between the Theatre and Concert Hall has been transformed into a glass-ceilinged atrium and welcome area. It sits in contrast with the untouched, protected facades of the buildings, and acts as an early indication of the depth of work that has taken place.

'The Victoria Theatre and Concert Hall is a national icon of Singapore and this is a unique, once in a lifetime project. We are very proud to be part of the team that made this installation possible,' reflects Gary Goh, deputy managing director of Electronics & Engineering Pte Ltd (E&E).

Of course, this is not the first time that the site has undergone such ambitious treatment – notable renovations took place in both 1954 and 1979, when it earned its current name. But the degree of care and attention to detail applied to its latest transformation is likely to prove Mr Goh right – this is an installation that will stand the test of decades, not least because so much consideration has been given to planning for the future. Perhaps the starkest example is the manner in which additional space has been sourced – an entire two levels of

basement have been created to house equipment and patching rooms, store rooms, dressing rooms, staff offices and more as space was a limited resource.

Arup's mandate to modernise facilities and improve acoustics can be keenly felt. In its former configuration, the auditorium boasted a capacity of 904. Now that number has been reduced to 614, all in the name of delivering the best possible experience for ticket-holders. But the past has not been entirely discarded – in just one example of the green approach that has been taken, the acoustic panelling that now lines the walls is part-constructed from the recycled frames of the former seats.

Operated under the auspices of Robin Shuttleworth of Esplanade – Theatres on the Bay, Victoria Theatre now boasts a Meyer Sound installation supplied by regional distributor Coda Group Pte Ltd and installed by E&E. The main front of house system is comprised of six CQ-1 wide coverage enclosures in a flown L-C-R configuration, with four 600-HP subwoofers (two flown in the left-right hangs and two ground-stacked) plus two ground-stacked 700HP subs for low-end extension. The left-right CQ1 system serves the circle seats, the centre-cluster CQ-1 top serves the balcony and the centre-cluster CQ-1 bottom covers the stalls. A further eight MM-4 enclosures installed into the lip of the stage act as front-fills. In addition, four flown UPA-1P enclosures serve as stage fills, while eight UM-100P wedges provide the bulk of the on-stage sound.

Perhaps the most striking elements of the audio system, however, are the 28 UPM-1P cabinets that form the surround sound system. Each precisely located loudspeaker is recessed into the wall in carefully measured compartments. More impressive still is the fact that every one of the loudspeakers has been colour-matched to the interior, in gold – a first for Meyer Sound. 'It's the first time in gold,' confirms Isaac Eng of Coda Group.

The system is run through three Galileo processors, all located in the main patching room on the newly created second basement level. Each has 16 outputs, making for 48 outputs in total – enough to individually control every speaker in the room. That level of flexibility reflects the broader philosophy applied throughout the Victoria project. A multitude of facility panels have been installed in both the Theatre and the Concert Hall, offering as much versatility as possible for visiting productions. The brand-neutral infrastructure is a fibre network running on Neutrik OpticalCon, as designed by Arup.

The front of house position sits at the rear of the under-balcony area, housing a DiGiCo SD7T linked to two DiGiRacks located in the basement and stage area. Above it is a recessed control room with an open window onto the auditorium. It is the home of lighting and video – the house lights are ETC Paradigm while the dimmers are from MA Lighting, all operated via a GrandMA console. Because of the open window onto the auditorium, only convection-cooled equipment could be used.

Microphone coverage comprises 16 sets of Shure UR4D (giving channels wireless with 10 UR2/KSM9B handheld transmitters and UR1M body-packs. A number of earsets have also been provided from both DPA and Countryman for use with the UR1.

However, to fully appreciate the new Victoria site, a visit to the basement is required. Inside the meticulously tidy patching room on level B2 is a treasure trove of technology. Indeed, it surrounds the visitor wherever he or she goes – antennas are all hidden all around for wireless intercom coverage. The intercom in question is Clear-Com HelixNet, with three HMS-4X units located in the B2 patching room and an army of HBP-2X belt-packs, speaker stations, CC-26K headsets and more elsewhere. A Sennheiser infrared assistive listening system is also available, with an SI 1015 IR modulator installed in the patching room plus SZI 1029 emitters located in the auditorium. Hard-of-hearing customers can enjoy the show with 10 EKI-830 IR body-packs coupled with 10 EZT 3011 induction neck loops. Show relay is handled by Q-Sys via two core 500i processors. Two ARX MaxiSplit distribution amplifiers have also been included while all digital equipment is linked into an Antelope Isochrone Trinity master clock.

Another noteworthy inclusion is the 64-channel Ross Video NK Series router which serves the all the show relay displays, FOH displays as well as the stage manager preview monitors. The IP bridge connects all the button panels and routers via a TCP network. The venue's backbone is on HD-SDI, hence the choice of broadcast grade equipment.

As with all major arts centres, Victoria Theatre and Concert Hall offers more than just the two main auditoriums, two examples of which are the drama and dance rehearsal room and the music rehearsal room. Though relatively low-key in comparison to the rest of the complex, both have been treated with the same care. Within the dance studio is a portable system comprising two UPJ-1P enclosures with two 500-HP subs, an XTA DP????48 for loudspeaker management and a DiGiCo SD11 for mixing. Two TASCAM CD-500Bs are also available as sources. The rehearsal facility boasts much the same set-up, but without the subs. Additionally, the infrastructure means that every room in the complex can be linked.

But if Victoria Theatre has been designed for ultimate flexibility, then the Concert Hall offers a different paradigm tailored towards its own unique purpose. Long the home of the Singapore Symphony Orchestra, it has now been reclaimed by the SSO and reimagined accordingly. The pristine, classically-influenced interior belies the level of work that has taken place in the room. Again, seating has been sacrificed to make way for vastly improved acoustics – its former 883 capacity has been reduced to 673 – while the balcony has been reduced in size and raised to a slightly higher position. Acoustic considerations have been balanced against the importance of the interior's beauty in innovative ways, best exemplified by the transparent reflectors hung high above the stage.

Front of house reinforcement is delivered through a d&b audiotechnik system comprising six Q1 tops flown three per-side with a Q7 down-fill on each hang. Six E5 enclosures provide under-balcony fill, while a further eight 4S enclosures have been discreetly installed into the frontage of the stage to provide front-fills when required. Loudspeaker management is via an XTA DP458 and a d&b R70. A further four M6 monitors are located on the stage for fold-back. All amplification is located in the Concert Hall's own patching room located at the L2 mezzanine, where five D12 and four D6 amplifiers can be found.

In terms of background technology,much of the same design as applied to the Theatre has been repeated within the Concert Hall. Clear-Com HelixNet is again used for intercom, a further two Q-Sys Core 500i processors manage show relay, Sennheiser provides assistive listening, and a DiGiCo SD9 with a single DiGiRack is used for front of house mixing. Nine sets 18 channels of Shure UR4D wireless with corresponding numbers of UR2/KSM9B and UR1 with countryman earsets are available.

Behind the stage is the stage manager's desk – one of two created by Matthew Lloyd, of UK-based specialist GDS. It contains an Allen& Heath iDR-8 matrix mixer linked to a PL6 fader panel by Cat-6. The desk is operated by an AMX NI-3100 integrated controller located in the L2????M Patch Room and linked to a MXT-1000 touch-panel. TASCAM CD-500B sources are onboard alongside a QSC PS-1650 paging station, a Marshall Electronics QV17X-HDSDI preview monitor and Ross Video RCP-NKM 40-button panel linked to the Hall's NK Series router.

"We want people who come in here to mount a production to feel at home with the equipment, to feel like it is the same as they use at home. We don't want them to waste time here configuring things and so on, we want to make it easy for them," reflects E&E project manager Chen Shiuh Yang.