

Master of disguise

A moving floor allows Melbourne Convention Centre's Plenary Hall to transform itself into a myriad of configurations, each designed to look like its true, permanent self

Top: Melbourne Convention Centre's Plenary Hall with the movable seating section retracted for a flat-floor configuration

Bottom: Spiralift units underneath the Plenary Hall's moving floor

When brainstorming the possible features for Melbourne's new convention centre, aspirations were grand – trade exhibitions, concerts, sporting events, live theatre, cabaret, television events, banquets, corporate seminars, dance performances, direct accessibility to loaded 40-tonne trucks, and remarkably, all of it transformable in less than an hour.

To allow such multifunctional use the centre's Plenary Hall was designed – a 5,000-seat space that can be divided into three self-contained, acoustically separate theatres. GALA Systems provided the equipment to make this possible, enabling the operators to maximise the usage of the space while creating a stage that allows the public to be as close to the action as possible.

Property of the Victorian State Government and managed by the Melbourne Convention and Exhibition Trust, the Melbourne Convention Centre is internally linked to the Melbourne Exhibition Centre to create the Melbourne Convention and Exhibition Centre (MCEC).

Green gem

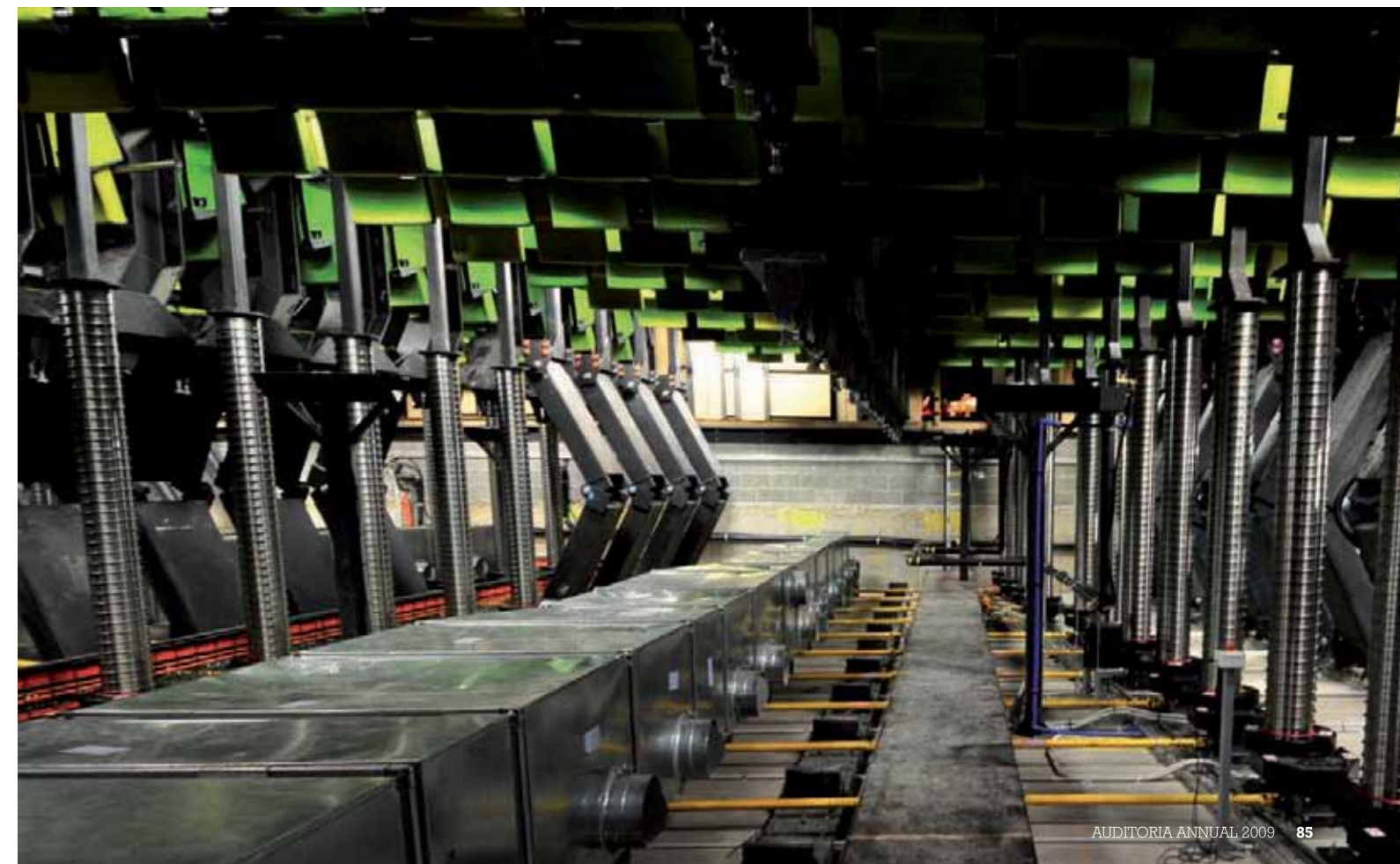
Located in the heart of Melbourne, in South Wharf on the banks of the Yarra River, the Melbourne Convention Centre opened its doors for business in June. With plenty of fresh air and natural light, the venue was designed to be Australia's greenest convention centre and the world's first to achieve a 6 Star Green Star environmental rating from the Green Building Council of Australia. The convention and

exhibition facility also boasts a Hilton hotel and a vibrant riverside precinct with cafés, restaurants and retail stores at its doorstep.

Offering a wide variety of options in event planning, the convention centre includes 32 meeting rooms of various sizes and a grand banquet room as well as the Plenary Hall. Developed with GALA Systems' technology by project consortium leader Plenary Group, architects Woods Bagot and NH Architecture, consultant Marshall Day and contractor Multiplex Construction, the Plenary Hall had to fulfil many specific needs. Not only would it have to provide the flexibility to be configured for multiple events, but each configuration would need to look seamless, as a permanent venue designed for a specific event.

This kind of request (for highly flexible automated spaces) had been partially fulfilled before by GALA in venues such as Jonquière Cultural Centre in Quebec, Canada; the River Rock Conference and Showroom in British Columbia, Canada; the KVS Cultural Center in Brussels, Belgium; and the Bilbao Cultural Center in Bilbao, Spain. But GALA says the size of the MCEC Plenary Hall, the truck loading requirement (20kPa capacity), as well as the goal of a 6 Star Green Star environmental rating brought with it a whole new set of challenges.

These challenges were met by creating a moving floor that allows approximately 1,600 of the 5,000 seats to be automatically reconfigured – more than 1km of rotating rows of seating. Without any manual handling, the 42 rows have an automated seat rotation system for storage



STAGE TECHNOLOGY



Above: The Plenary Hall in a full auditorium configuration

Below: The Melbourne Convention and Exhibition Centre

under the floor in under 10 minutes. While strong enough to load and lift trucks, the floor itself provides ventilation – the trough-floor positive displacement ventilation is integrated for energy efficiency. Air is delivered at a low level and exhausted at a high level, providing effective fresh airflow with low energy consumption. For easy accessibility, the floor conceals service outlets for power, water and gas.

Powered by GALA's patented stainless steel Spiralift system, the floor, stage, seating risers and lift systems are precisely engineered for accuracy and stability. The multiple stage configurations are achieved by two independent orchestra lifts and four independent stage lifts, using 42 of GALA's largest Spiralift units. The Plenary Hall's entrance passages are also defined by an elegant telescopic skirting system designed by GALA. The movable seating area requires 194 Spiralift units, self-contained guiding mechanisms and concealed equipment to make each setup virtually indistinguishable from a single-purpose facility. This permanent feeling is strengthened with the stability and solidity of the floor, and auditorium-quality seats (with A3-sized trays) from Cematic Seating.

Although many new configurations can easily be added, the touch-screen electronic system that was developed based on GALA's parameters by Control IT, a local supplier, has already been programmed with several configurations. These include the full hall (with or without sound and lighting desks), sports hall, conference (small or full), cabaret, and a flat floor for events such as banquets and exhibitions.

For each configuration the seat rake can be adjusted to allow for a completely clear view of the stage from any seat. "The Plenary has been carefully designed. Its fan-shaped design means all delegates will have an unobstructed view no matter what the convention mode, something no other centre in the world can do," says Nik Karalis, director, Woods Bagot.

The MCEC has been built and contracted for a minimum 25-year operational duration. Because of the high complexity of the truck loading, and the flexibility of the seating rows, GALA completed rigorous tests on the mechanical system. A 10-day continuous operation systems test was performed prior to installation at the plant of Metaltec, the local manufacturer in Melbourne. Along with this preoccupation for longevity, maintenance too had to be carefully planned. There are no wear parts and a fully trained local team can maintain the hall within a week each year.

Despite the complex solution, the mechanism is completely hidden. In addition, all the Spiralift units are lubricated with an odourless lubricant generally used in the food handling industry.

"Our goal was to provide high flexibility to the Plenary Hall with a quick conversion time, seamlessly changing into different configurations. We know now that this system will make it easy for the MCEC to provide an array of ideal high-quality spaces and never say no to hosting any event," says Robert Heimbach, vice president of GALA Systems. ■

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