

INNOVATIVE SEATING SOLUTIONS FOR THE MELBOURNE CONVENTION CENTRE

The multi-award winning Metaltec Precision Engineering has added the first Gala Seating facility in Australasia to its list of globally recognised work within the aerospace, defence, food processing, pharmaceutical, mining, automotive, energy and heavy engineering industries.

With 12,000 square metres of dedicated factory based in Cheltenham, Victoria, Metaltec has extensive capabilities in:

- Design and development
- Engineering
- Precision machining – milling and turning
- Fabrication
- Assembly
- Pressing – up to 700 tonnes
- Quality inspection
- Project management.

Versatility, scale and a focus on partnering with industry has seen Metaltec inducted into the Victorian Manufacturing Hall Fame for the manufacture and installation of the storage ring base for the Australian Synchrotron, the most complex scientific device ever built in Australia, which is used for nanotechnology, medical and pharmaceutical research.

After an extensive search, Multiplex and the Plenary Group also identified Metaltec as the right partner to take on the ambitious Gala Seating project. Metaltec was awarded the contract to prototype, configure, manufacture and install the 1600 seat Gala solution, which enables the Plenary Hall to arrange seating to suit different users. The seats can be mechanically arranged in a flat floor, tiered, terraced or stadium mode. Seats can be fully hidden under the floor or deployed to theatre mode within ten minutes. The Melbourne Convention Centre is the first venue to install a Gala Seating system in Australasia, and the project is twice the

size of any other Gala Seating instalments in the world.

From the outset, Multiplex and the Plenary Group set out to develop the Convention Centre as a true multipurpose venue. Melbourne has been recognised for many years as the world leader for design and operation of profitable multipurpose sports stadiums. The Melbourne Convention Centre will now match these venues with the level of innovation and user flexibility.

Metaltec utilised skills built from over 50 years of industry experience to develop a solution that met demanding specifications and timeframes.

CATIA CAD CAM systems were used to produce accurate 3D models of the seating system and hundreds of real time animations were generated to ensure the design was fit for purpose and met the exacting specification.

With the design locked down, full scale prototypes were built at the company's Cheltenham facility and were subject to rigorous testing to meet the onerous criteria. These included dynamic testing to ensure operational stability and static testing to withstand 75 tonne loads so that the seating system can function as a stage whilst in flat floor 'Exhibition mode'.

During the installation process, Metaltec utilised high precision laser measuring techniques similar to those the company employees to manufacture aircraft parts. The tight tolerance of 6mm between seating platforms in theatre mode

translated to less than 0.2mm at ground level. To meet this tolerance, the Metaltec installation team introduced techniques not generally employed on a construction site, including mounting a laser projector in the roof structure to locate the seating bases and the 23,000 bolts engaged to hold the system down.

The end result is impressive. The Plenary Hall can be divided into three separate halls and each one has its own Gala Seating solution. The middle hall alone has the equivalent capacity of the largest previous Gala installation. To observe the hall transfer from Theatre mode with 5000 seats, to banquet mode with 3400 seats, and banquet seating with 2000 seats in less than ten minutes is clearly impressive.

To capitalise on the experience gained at the Convention Centre, Metaltec is in discussion with Australia's leading architects and engineers to develop innovative solutions for future projects. Opportunities exist to manufacture and install systems in other concert halls, stadiums and theatres in Australia and across the globe.

Metaltec looks forward to the next opportunity to work with Multiplex on one of their exciting projects. The skills utilised to complete the Synchrotron and Convention Centre is transferrable to any contract that requires precision engineering.

For more information try:
www.metaltec.com.au