

# A spotlight on precast

Gathering leaders from the precast industry, from manufacturers and suppliers to allied professionals, the National Precast Concrete Association Australia's Sydney National Conference has emerged as a pivotal event for the sector.

On 1 November 2023, members of the National Precast Concrete Association Australia (National Precast) travelled from far and wide to attend its National Conference in Coogee, New South Wales.

Hosted by National Precast CEO Sarah Bachmann and president Jeff Stratford, the three-day conference commenced with a welcoming reception alongside an exhibition featuring prominent industry players including Leviat, Reid Construction Systems, CONQA, PSA, ConXedge, BOSFA, ECOTONE, PROGRESS GROUP, Barrason's Engineers, Actech, Peikko, Hagane Systems, APTUS and Bennett Equipment. The exhibition showcased a diverse array of innovative products and solutions for the precast industry, from quality assurance software to structural precast connections.

As the exhibition continued on day two, industry leaders took the stage to share their insights during the official conference, sponsored by Leviat.

Leviat Australia national technical manager Brett King and engineering team leader - Precast Ali Asgari discussed durable and resilient solutions designed to withstand the challenges posed by precast connections, while also reducing the overall cost and complexity of precast construction.

Fair Work Commission deputy president Peter Hampton shared an update on the implementation of multi-employer bargaining options.

WorkSafe Victoria senior construction advisor James Webster delved into WorkSafe's 'Pre-cast Panel Project', an initiative involving a comprehensive review of six primary hazards within precast businesses in Melbourne: respirable crystalline silica (RCS), cranes and lifting equipment, panel storage, hazardous manual handling, vehicles and traffic management, and panel design and quality assurance.

Daniel Nassar, managing director at Alpha Precast, revealed his strict contracting approach, outlining the strategies he employs to maintain his position, and illustrating the positive impact these measures have had on his business.

Attendees also heard from Fleur Heazlewood, director at The Blueberry Institute, discussing psychological safety; Sarah Hammond,

partner at Moray & Agnew, addressing the termination of project contracts; and Matt Press, executive director, Compliance & Dispute Resolution at SafeWork and Fair Trading NSW, sharing perspectives on modernisation opportunities and roadblocks.

Concluding the conference, Stratford, in his position as general manager QLD at Euro Precast, shed light on the company's adept handling of the challenges involved in manufacturing and installing precast elements for the high-profile Mondrian Gold Coast project. He explored the implications on reinforcement congestion, mould manufacture, drafting considerations, utilisation of form liners, the company's in-factory and onsite quality assurance procedures, offsite payment processes, audits, inspections and approvals, delivery and installation. Additionally, Stratford highlighted the support from National Precast partnerships that played a crucial role in navigating and overcoming challenges as they emerged.

To cap off day two, attendees enjoyed a networking dinner, sponsored by PSA and PROGRESS GROUP, before embarking on an interactive factory tour of the Metro West Tunnel on day three.

During the dinner, National Precast honoured several members for achieving membership milestones of 5, 10, 15, 20, 25 and 30 years.

Notably, Rod Mackay-Sim was bestowed with Life Membership for his remarkable dedication to the precast industry over the past 40 years.

"Rod's commitment to the precast industry, in particular his passion for improving safety, has been nothing short of outstanding," says Bachmann. "We are proud to know Rod and incredibly appreciative to have him involved with National Precast."

Additionally, Sarah Bachmann was acknowledged for her 20 years of service as the CEO of National Precast.

"Sarah's passion, dedication, sleepless nights and laughter have helped all of us grow and be successful in our respective businesses," says Stratford. "On behalf of the association and our members, I was so pleased to recognise Sarah's amazing tenure with a 20-year service award and gift."

*Inside Construction* was proud to support and attend the event as an official media partner of National Precast. **IN**



National Precast Sydney Conference 2023.

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The National Precast Concrete Association Australia

# Innovating infrastructure projects

Infrastructure projects across Australia are set to reap the benefits of a new retaining wall system that is now available locally.

**Project**

Ovingham Level Crossing Removal Project

**Head contractor**

PTP Alliance (McConnell Dowell, Arup and Mott Macdonald with the South Australian Government's Department for Infrastructure and Transport)

**Master Precaster**

The Reinforced Earth Company

A new retaining wall system is being used on a level crossing removal project within one of Adelaide's inner suburbs, delivering significant enhancements in both construction safety and speed.

The new system combines precast and in situ concrete construction to deliver a highly efficient and robust cantilever retaining wall.

National Precast Concrete Association Australia Master Precaster The Reinforced Earth Company has brought the new technology to Australia. Full-height facing panels that come complete with pre-attached perpendicular counterforts are manufactured and then delivered to site. The integrated counterforts are then jointed onsite to a structural concrete footing.

The Ovingham Level Crossing Removal Project in Adelaide, South Australia, is the first infrastructure project in Australia to try the new system.

**Level crossing removals prioritised**

The removal of level crossings across the country involves eliminating intersections between roads and railway lines by either elevating rail lines or lowering roads. The main objective is to reduce the risk of accidents and fatalities associated with level crossings, which are known to be high-risk areas.

There are more than 23,500 railway level crossings in Australia, according to the Australian Rail Track Corporation. Of these, 21 per cent have operational boom gates or flashing lights. The dangers are real, with around 30 fatalities every year resulting from level crossing collisions and more than 1,000 near hits annually between vehicles and trains.

Prioritising the removal of level crossings showcases commitment by Australian governments to modernising transportation infrastructure, for the betterment of communities and for the efficiency of cities. Collaborating with rail and transport authorities to plan, fund and execute these projects, governments consider factors like community impact, cost-effectiveness and environmental sustainability. The target is to enhance safety, efficiency and traffic flow across the nation.

**Removed for safety and efficiency**

Ovingham has long experienced significant traffic congestion due to the presence of multiple level crossings. The crossings often resulted in delays, increased accident risks and hindered emergency response times. The aging infrastructure and growing population exacerbated the issue, necessitating a comprehensive level crossing removal project.

Jointly funded by state and federal governments, the \$196 million Ovingham Level Crossing Removal Project is removing the level crossing at Torrens Road, Ovingham and involves construction of a new 180-metre-long bridge that connects into two approach ramps, with three lanes city-bound and two outbound lanes.

Executed in multiple phases, innovative engineering techniques have been employed across the project to ensure minimal disruption and to maintain safety during the construction process.

With an average of 21,300 vehicles passing through the level crossing daily, its removal will significantly impact safety, freight productivity and connectivity and traffic flow in the area.

**New heights for retaining wall technology**

As a fundamental component of civil engineering and construction for centuries, retaining walls aid in managing slopes, preventing erosion and creating usable spaces on uneven terrain. Advancements in materials, and design and construction techniques have revolutionised the field of retaining wall technology, leading to structures that are not only highly functional but also aesthetically pleasing.

Never before used in Australia but widely used across America and Europe, The Reinforced Earth Company's TechWall system presents a new, innovative concept for optimising retaining walls.

Known as a counterfort retaining wall system, it consists of full-height wall facing units which can easily feature architectural detailing and patterns.

Panels are delivered with counterforts pre-cast on the rear side and protruding rebar dowels from their bases. Onsite, the footing is formed, reinforcement is placed and the panel dowels are tied in to provide the necessary embedment and development lengths. The cast-in-place footing is then poured, securing the panels in place and increasing the effectiveness of the load transfer mechanism to the ground.

Riccardo Musella, The Reinforced Earth Company's managing director in Australia, says the system's full height monolithic units mean no soil reinforcement is



The new retaining wall system improves construction safety and speed.

"The new system combines precast and in situ concrete construction to deliver a highly efficient and robust cantilever retaining wall."

needed and it is a simple and economic replacement for traditional cast-in-place cantilever wall designs.

"This system will revolutionise retaining walls," says Musella. "It is perfect for narrow cut situations or applications with extreme obstructions within the fill zone, and offers complete aesthetic versatility, with facing panels allowing for a wide variety of surface patterns and texture if desired."

**Improved safety gets the thumbs up**

The project has received resounding feedback from the community, praising the improved safety and convenience brought about by the upgrades and impressed by the walls, bridge and plaza, all of which look like works of art thanks to the stunning urban design that translates Aboriginal stories into visual elements.

Serving as a blueprint for similar infrastructure projects, the Ovingham Level Crossing Removal Project is enhancing safety, connectivity and overall quality of life in urban areas. Its success highlights the importance of thorough planning, stakeholder engagement and innovative construction techniques in achieving project objectives. It is a project that demonstrates the potential for transformative infrastructure projects to enhance communities and lays the groundwork for future urban development.

Musella says he is very proud that his company had the opportunity to work with the PTP Alliance to bring this technology to Australia. This partnership has proven highly successful, as evidenced by the notable achievements on the Ovingham Level Crossing Removal Project. **IN**

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The Reinforced Earth Company's TechWall system was used on the Ovingham Level Crossing Removal Project in Adelaide.



By the National Precast Concrete Association Australia.