ENGINEERING A SMARTER MEDICAL FUTURE

CLIENT : St Vincent's Hospital Melbourne (SVHM)
MAIN CONSTRUCTION COMPANY : Kane Constructions
ARCHITECT : Denton Corker Marshall (DCM)
STRUCTURAL ENGINEER : Arup
SURVEYOR : McKenzie Consulting Group

Aikenhead Centre for Medical Discovery is Australia's first biomedical engineering research centre on a hospital campus. The 11-storey facility will feature state-of-the-art labs, a full height atrium, and educational spaces.

Located in the heart of Melbourne's healthcare precinct, the Aikenhead Centre for Medical Discovery (ACMD) represents a landmark in Australian medical research and innovation.

Kane Constructions, a multi-award-winning commercial builder, was appointed to deliver this technically complex, and Australia's first, biomedical engineering research centre co-located within a major hospital campus.

The ACMD facility brings together clinical researchers, biomedical engineers, scientists, and industry innovators under one roof. The project forms a strategic hub for collaboration between institutions such as St Vincent's Hospital Melbourne, University of Melbourne, RMIT, the Bionics Institute, St Vincent's Institute, Swinburne University and Australian Catholic University. Kane's role was pivotal in translating this ambitious vision into a state-of-the-art, 11-storey structure that blends high-tech laboratories with flexible research and education spaces.

Kane's engagement began with the early works package, including the demolition of the former Aikenhead Wing on the operational St Vincent's campus. Managing demolition in a live hospital environment required precision, planning, and extensive co-ordination. Kane deployed detailed risk mitigation strategies and worked in close collaboration with hospital staff to ensure minimal disruption to ongoing clinical services.

The new ACMD facility includes a diverse suite of specialist spaces: 3D printing labs, clinical simulation facilities, PC2-certified laboratories, engineering workshops, and educational facilities. Delivering this range of technical zones within a vertical building footprint required Kane to coordinate complex services, including vibration-sensitive floor construction and advanced HVAC systems tailored for both medical and engineering applications.

Each level had specific design requirements and performance standards. Kane worked alongside principal consultants Denton Corker Marshall (architect), Arup (structural, façade, acoustic, fire engineering), Lehr Consultants International (services), Johnstaff (Superintendent), and MBM (quantity surveying) to ensure these were met without compromise.

The building's design was inspired by crystalline formations, a motif that speaks to both medical and engineering discovery. Key features include a full-height atrium and a striking external façade made of sculpted aluminium panels and glazed curtain walls. Kane's ability to translate architectural vision into a functional, buildable reality was instrumental in achieving the desired balance between form and function.

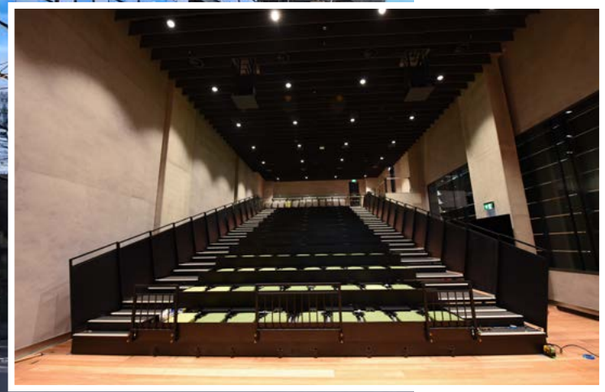
With multiple institutions invested in the outcome of ACMD, Kane's proven experience in stakeholder management was critical. Regular working group meetings, transparent reporting, and collaborative decision-making processes were implemented throughout the build. This ensured that all partners remained aligned on budget, schedule, and scope while accommodating refinements along the way.

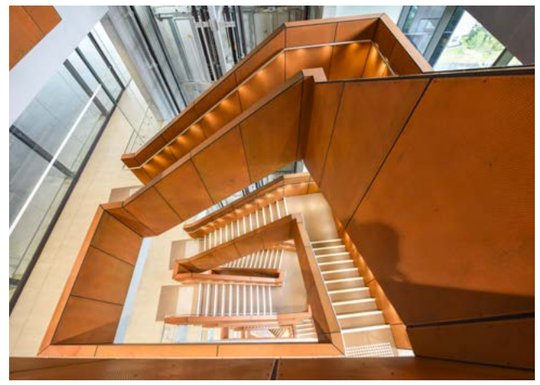
The team's experience delivering health, research, and education projects of similar scale gave stakeholders confidence in Kane's ability to navigate complexity with clarity and control.

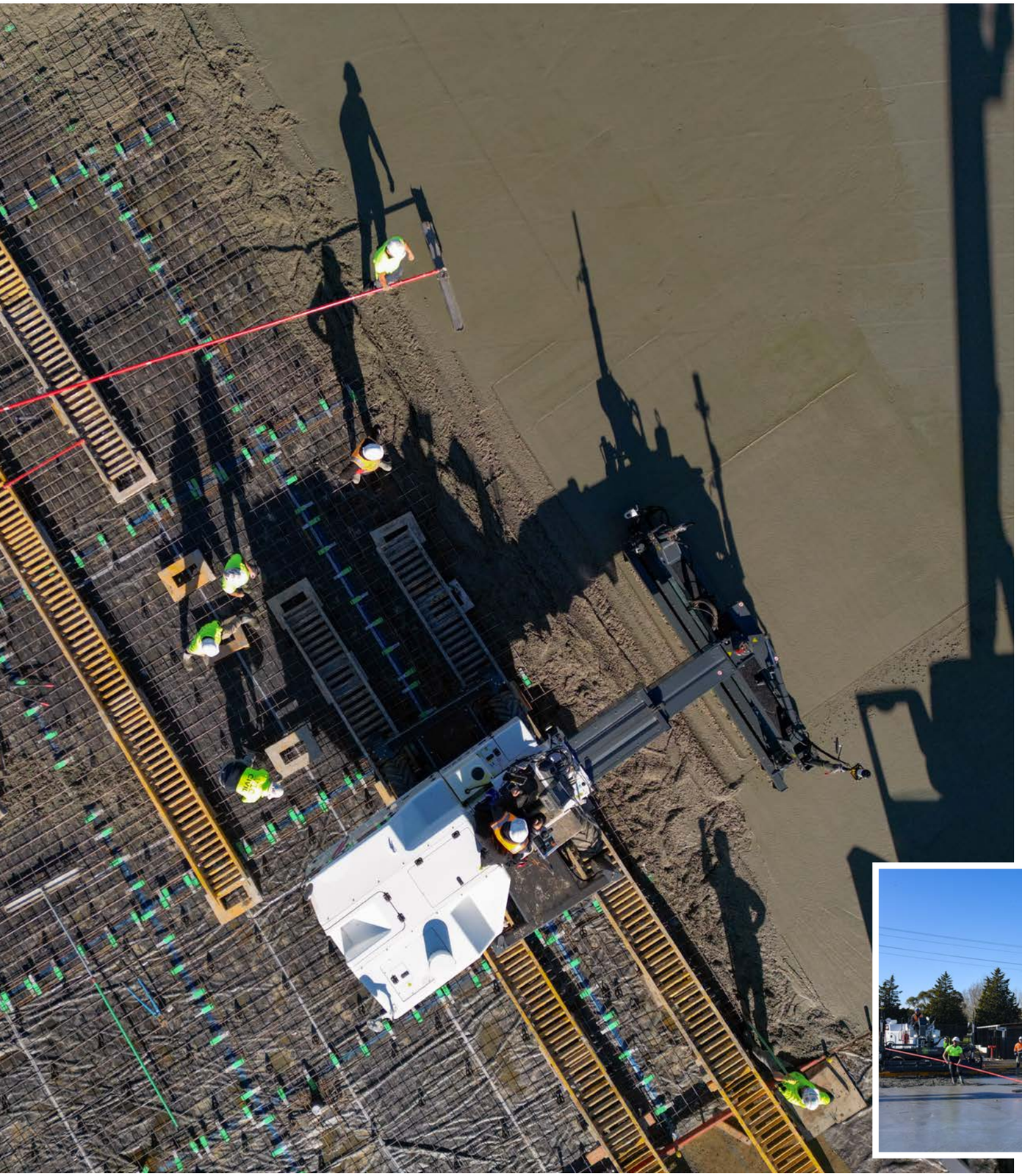
Kane's delivery of ACMD also focused on future sustainability. The project incorporated energy-efficient design principles, smart building systems, and long-term adaptability across research and teaching spaces. The facility is designed to accommodate rapid technological evolution, essential for a centre committed to driving Australia's medical device and digital health innovation.

ACMD will be a catalyst for life-changing health innovation, from surgical robotics and bionic implants to new imaging technologies and wearable health devices. For Kane Constructions, delivering the ACMD was more than a construction project, it was a contribution to the future of Australian healthcare.

For more information contact Kane Constructions, phone 03 8420 1200, website www.kane.com.au







Below Vic Civil delivered complex early works at ACMD, ensuring precision and safety in a live hospital setting.

VIC CIVIL NAVIGATES COMPLEX EARLY WORKS IN A LIVE HOSPITAL ENVIRONMENT

Delivering civil infrastructure within a live hospital precinct requires more than technical capability—it demands precision, adaptability, and constant collaboration.

At St Vincent's Hospital Melbourne, Vic Civil was tasked with delivering the early works package for the Aikenhead Centre for Medical Discovery (ACMD), Australia's first hospital-based biomedical engineering research facility.

"Our scope included bulk earthworks for the basement, pile trimming, capping beams, shotcrete retention walls, pile caps, crane base detailing, backfilling, and stormwater infrastructure," explained Aaron Taylor, Vic Civil Owner and Managing Director. "These foundational elements were critical in setting the pace for follow-on trades and ensuring long-term structural integrity and watertight performance."

Working in Melbourne's CBD is never straightforward, but the challenge was heightened by ACMD's location within the operational St Vincent's Hospital precinct.

"Excavation and spoil removal had to be carefully managed due to constrained site access and proximity to active hospital services," Aaron said. "We used staged excavation strategies, real-time coordination with traffic controllers and the builder, and efficient dewatering systems to maintain progress."

Adding to the complexity were strict protocols around noise, dust, and vibration. Vic Civil implemented real-time monitoring systems and adopted low-impact methods to minimise disruption. "Safety and minimal interference with hospital operations were non-negotiables," said Aaron. "We worked closely with Kane Constructions and the hospital's facilities team to adapt our schedule and methods wherever needed."

Environmental sustainability was also a key priority. The team adhered to erosion and sediment control plans and ensured stormwater infrastructure, such as AGI drains and pits, were installed to reduce runoff and protect nearby assets.

"We were meticulous in our waste management," noted Aaron. "All spoil was tracked and disposed of at licensed facilities, ensuring full environmental compliance and accountability."

Among the more technically demanding components were the shotcrete retention walls and capping beams.

"The variable ground conditions and proximity to existing structures meant we had to work in lockstep with structural engineers and piling contractors," Aaron said.

Seamless collaboration also proved crucial during stormwater installation and services coordination, where timing and precision were critical to avoid downstream disruptions.

Technology played a vital role in ensuring accuracy and efficiency. Vic Civil used 3D survey equipment and GPS machine control, especially for pile caps, crane bases, and drainage systems, where tolerances were tight.

Safety was equally rigorous, supported by SWMS protocols, toolbox talks, and live risk assessments. Digital project management tools helped stream-line communication, documentation, and real-time issue resolution.

Clear and constant communication with Kane Constructions was a linchpin in Vic Civil's delivery strategy. "Our supervisors were embedded within the broader project team, allowing for real-time coordination," Aaron said. "Daily meetings, lookahead programmes, and detailed progress reporting helped ensure alignment and agility."

Looking back, Aaron says the team takes particular pride in delivering complex basement and drainage works within such a constrained and sensitive environment.

"Completing these tasks on time, incident free, and to a high-quality standard, while navigating the challenges of a live hospital setting, is something we're incredibly proud of," Aaron said. "This project reflects the kind of technical, collaborative, and mission-driven work VIC Civil excels at."

By providing precise, high-performance civil infrastructure at the heart of a medical innovation precinct, Vic Civil has helped lay the groundwork for generations of breakthroughs to come in health research and care.

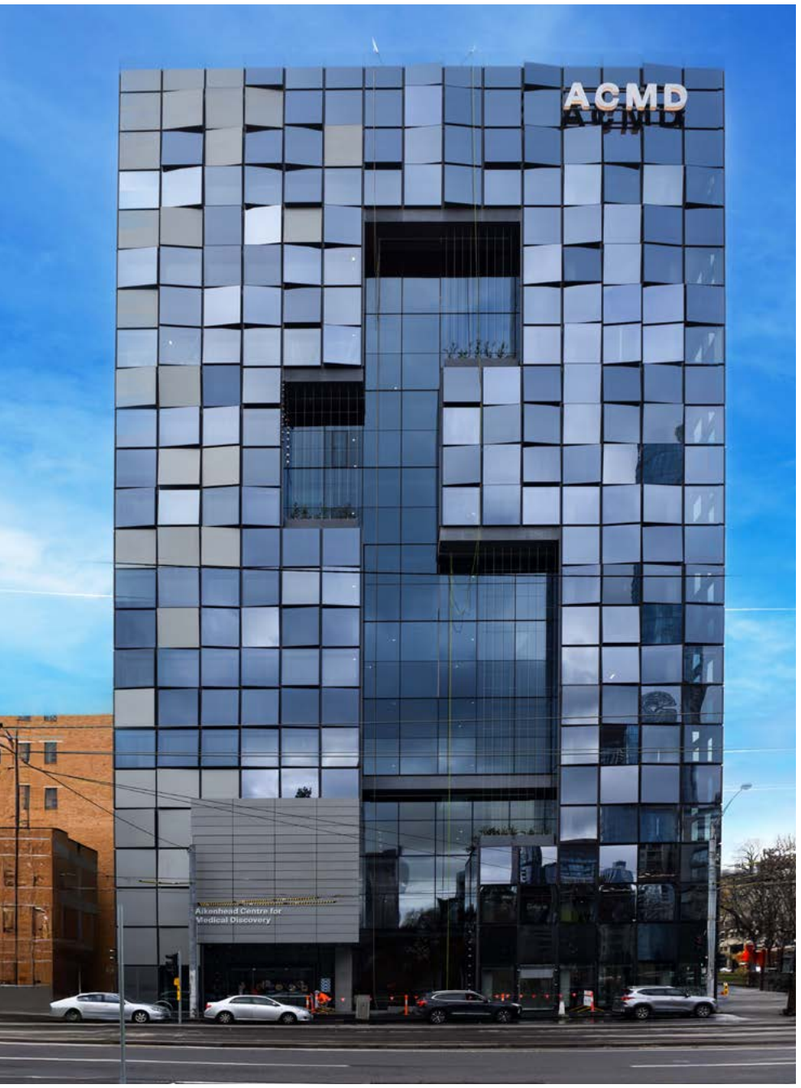
For more information contact Vic Civil, phone 03 9793 4737, email admin@viccivil.com, website www.viccivil.com

Below Tali Engineering delivered precision structural steelwork for ACMD, overcoming complex logistics on a live hospital site.

STEEL BACKBONE: TALI ENGINEERING SUPPORTS ACMD'S STRUCTURAL AMBITIONS

As Australia's first hospital-based medical research facility of its kind, the Aikenhead Centre for Medical Discovery (ACMD) demanded nothing less than excellence, both in design and execution.

Supporting the structural backbone of this cutting-edge project was Tali Engineering, a South Australian-based steel fabrication and erection company with a national footprint and a reputation for precision.



For over 38 years, Tali Engineering has specialised in structural steel fabrication, bringing expertise to large-scale commercial and industrial developments across South Australia, Victoria, Queensland, and the Northern Territory.

John Tali, the Director of Tali Engineering, says "For our customers, we commit to delivering a standard of work that exceeds their expectations – extending beyond the norms of good service. We work closely with our customers to ensure an accurate determination of scope – and how best we can apply our decades of experience to facilitate the efficient delivery of high-quality steel in a cost-effective & timely manner with zero incidents".

The ACMD project, built by Kane Constructions, offered the ideal platform for Tali's capabilities and collaborative approach.

"Our team was responsible for the structural steel supply, fabrication, and erection—particularly the roof steel and external canopies," said John. "These were key architectural features that needed to meet not only structural standards but also the aesthetic vision of the project."

Delivering the steelwork on such a complex inner-city build came with its own set of challenges. The project required close coordination with other trades and teams, all operating within a tight footprint and compressed timeframes.

"Access was extremely limited, and we had to work within the constraints of a live site with active medical and university facilities," John explained. "We relied heavily on tower crane logistics and precise sequencing to install the large canopy and roof sections."

To meet the demands of the ACMD's innovative architecture, Tali Engineering used special-grade steel plates, custom-fabricated to accommodate the building's sleek structural profile. Their team of 50 professionals, including 30 dedicated to this project, were instrumental in ensuring smooth delivery, from shop drawing to final install.

Tali Engineering's certified quality systems and rigorous internal standards were crucial in managing the complexity of the job. As a CC3 Certified Company, Tali is accredited to handle high-risk and structurally significant projects, including hospitals, education buildings, and large-scale infrastructure.

"Quality is not just a tick-box exercise for us. It's at the centre of everything we do—from procurement through to weld integrity and installation," said John. "On projects like ACMD, there's no margin for error."

Their commitment to excellence has earned them repeat business with top-tier builders and developers.

Alongside ACMD, the company is currently engaged in projects such as the Bulla Frozen Factory, Mount Barker RALC, and 88 O'Connell Street in North Adelaide, with recently completed works at the Jarvis Showroom adding to their impressive portfolio.

Tali Engineering were awarded the MVP award by Kane Constructions for their excellent performance on St Vincent's Hospital Car Park project completed in 2024.

Yet what sets Tali Engineering apart isn't just their technical capability—it's their culture of collaboration. John emphasised that successful delivery at ACMD was the result of a shared vision and open communication with Kane Constructions and other subcontractors.

"Steelwork doesn't exist in isolation. It's the backbone that holds together services, finishes, and façades. That's why coordination is everything," John said. "We worked hard to integrate seamlessly into the broader construction program."

For a company that started in 1987 and has grown steadily through its reputation for reliability, ACMD represents not only a technical triumph but also a symbolic one—a structure that will house the next generation of medical discovery, quite literally supported by Tali's steel.

"It's always an honour to contribute to a project with this kind of legacy," John concluded. "Knowing that our work will be part of a centre that changes lives through research and innovation—it's something the whole team is proud of."


CCAC Health Club, Alice Springs


Jarvis Gepps Cross, SA

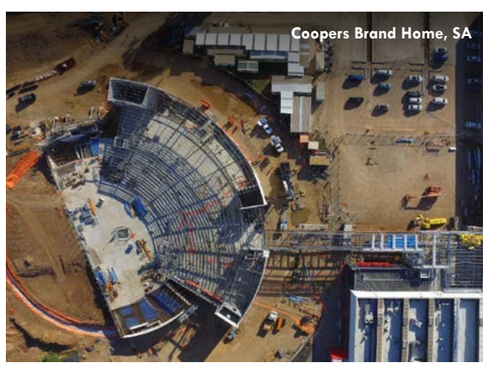

Mt Baker RALC, SA


Bulla Frozen Food, Colac VIC


Ingham Chicken SA


PPG Factory, Clayton VIC


Monash University VIC


Coopers Brand Home, SA

For more information contact Tali Engineering, phone 08 8240 4711, email reception@talieng.com.au, website www.talieng.com.au

Below Industry Cladding & Roofing delivered custom, compliant zinc cladding solutions for ACMD's complex architecture.

FORM, FUNCTION, AND FABRICATION: ELEVATING HEALTHCARE ARCHITECTURE

As Australia's first hospital-based biomedical engineering research facility, the Aikenhead Centre for Medical Discovery (ACMD) called for a level of architectural innovation and precision that few could deliver. I

Industry Cladding & Roofing, under Leadership of newly appointed Operations Manager Nick Karakasch, rose to the occasion with a tailored, high-performance cladding solution that was as visually striking as it was technically advanced.

"Our scope on ACMD included the installation of VMZINC cladding on the entrance soffit, which seamlessly transitions into the multi-level foyer," said Nick. "The zinc panels rise two stories, creating an immersive and sophisticated design experience from the outside in."

One of the project's most unique elements was the integration of bespoke louvre frames clad in Quartz-coloured VMZINC. These were designed to manage light levels in the building's second-storey theatre while preserving a cohesive aesthetic across the foyer.

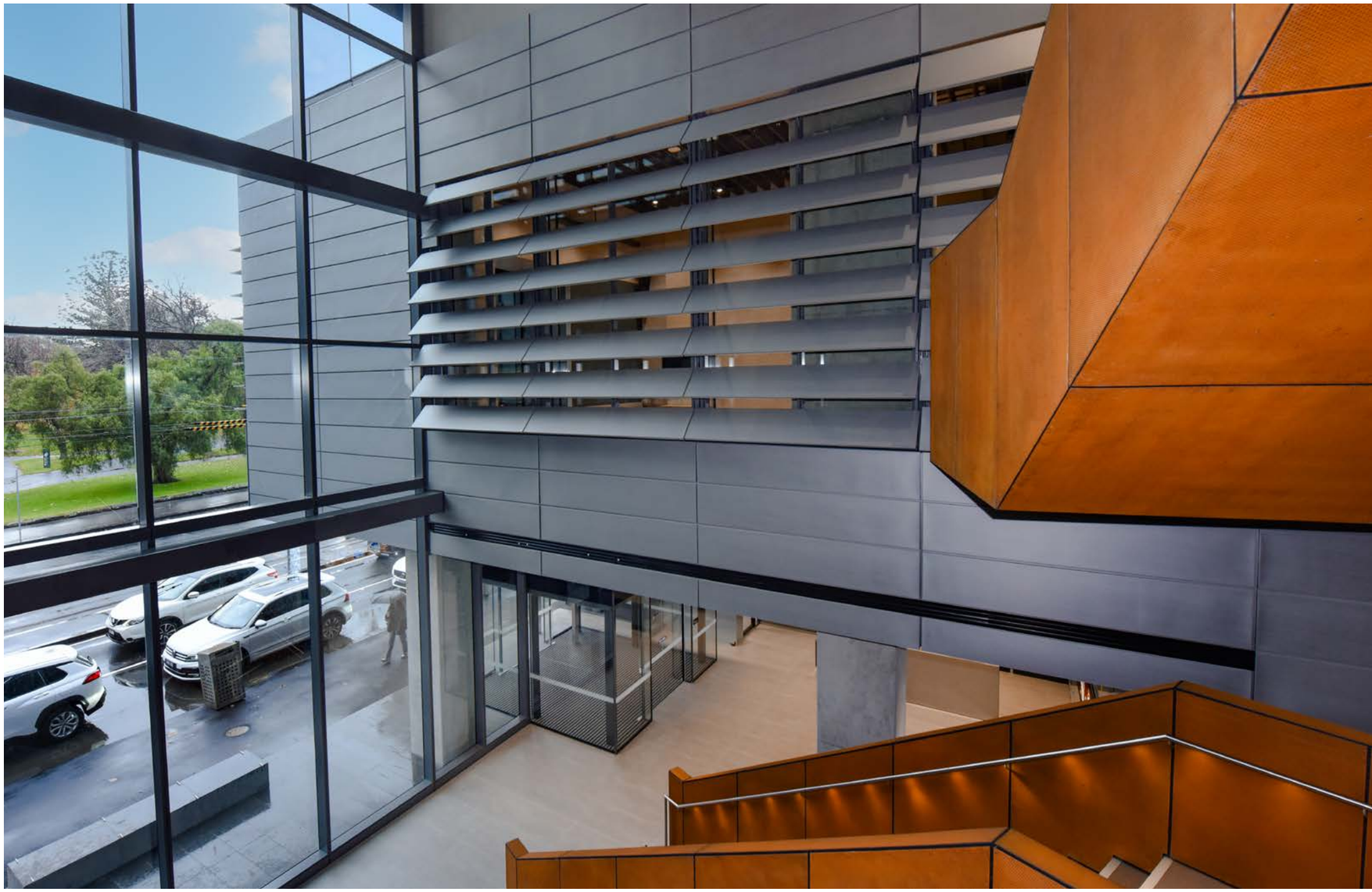
"The louvre frames were custom made and clad in zinc to provide a functional yet elegant solution," Nick explained. "They offer light modulation without compromising the architect's vision."

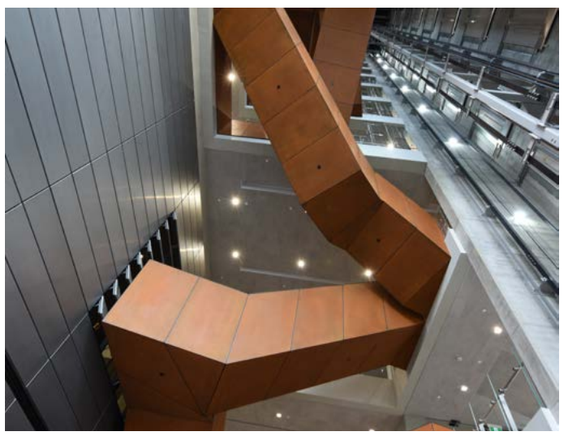
The selection of VMZINC wasn't purely aesthetic. "Zinc is incredibly durable, highly recyclable, and low-impact in terms of energy use during both production and reuse," said Nick. "Its self-healing patina and long lifespan also minimise ongoing maintenance, which is essential in a medical facility."

Industry Cladding & Roofing's contribution helped realise the striking juxtaposition between the light-reflecting zinc panels and the building's corten steel staircase. The contrast greets visitors upon entry and sets the tone for a space rooted in innovation.

The company's in-house fabrication capabilities at Truganina played a critical role in the project's success. "Because we manufacture everything off-site to precise, site-specific dimensions, we eliminate installation stress on panels and deliver a seamless finish," Nick noted. "This level of control is a game-changer for meeting architectural demands and tight timelines."

Working alongside Denton Corker Marshall and Kane Constructions, Industry Cladding & Roofing ensured smooth coordination and delivery.





"We've worked with Kane Constructions on numerous projects over the last decade," explained Nick. "Our shared commitment to quality and communication made for a great partnership. Our in-house manufacturing gave us the flexibility to meet deadlines without relying on third-party supply chains, which kept the build running smoothly."

To meet the compliance needs of a state-of-the-art medical research centre, Industry Cladding & Roofing adhered to Australia's most stringent safety standards.

"All our systems are non-combustible and fully AS1530.1 compliant," Nick said. "We only work with the most trusted cladding materials, like Colorbond, VMZINC, and Unicote Steel, to ensure both safety and aesthetic excellence."

For Nick and his team, the ACMD project is more than another impressive addition to the portfolio—it's a source of genuine pride.

"We're honoured to contribute to a facility that supports world-class medical research and collaboration," Nick said. "Our cladding and roofing solutions aren't just about buildings, they're about creating environments where meaningful, life-changing work can thrive."

Industry Cladding & Roofing's work on the ACMD stands as a testament to what's possible when innovation, sustainability, and precision align, setting a new standard for architectural excellence in healthcare and beyond.

For more information contact Industry Cladding & Roofing on 03 5367 0316

Head Office: 10 Carmen Street, Truganina VIC 3029
Regional Office: 35 Fisken Street, Bacchus Marsh VIC 3340