



SMARTER  
HVAC  
SOLUTIONS  
**Built in certainty**

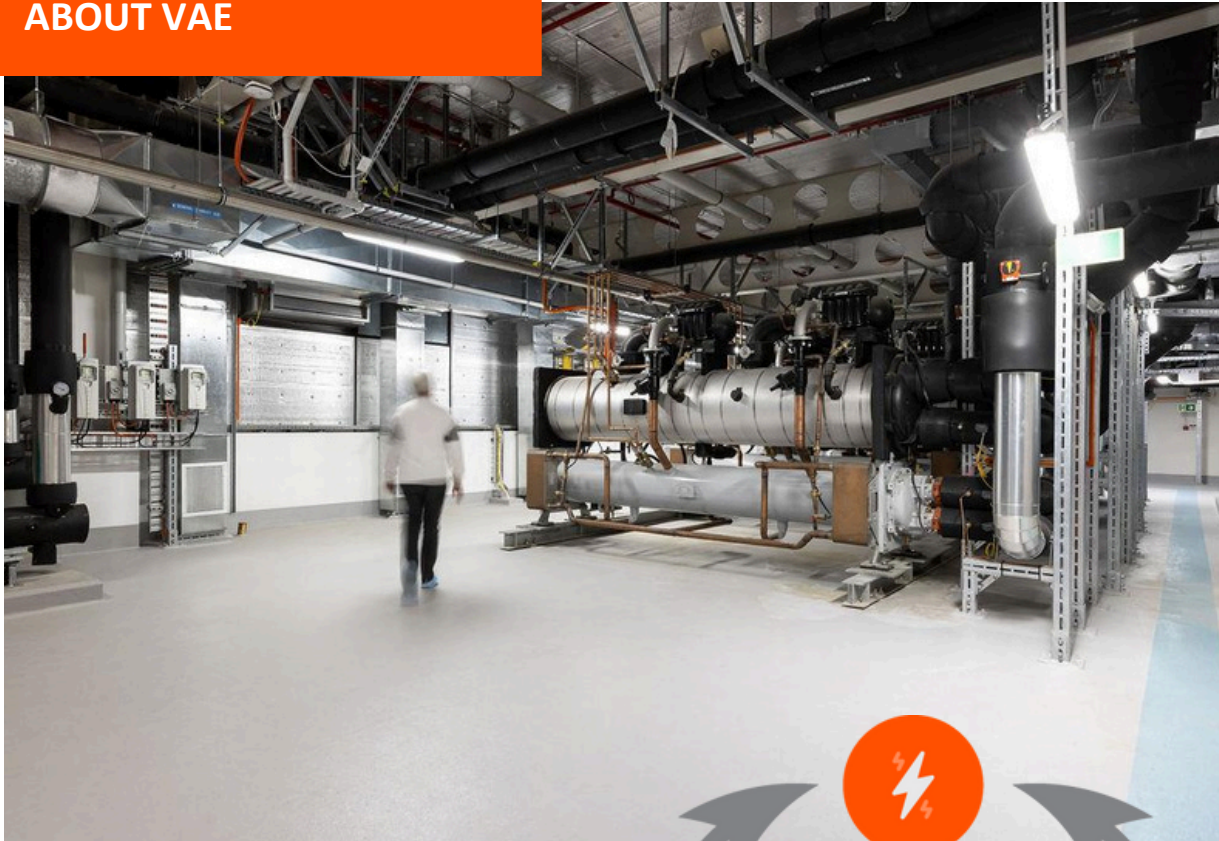


## VAE Capability Profile

Education

*February 2025*

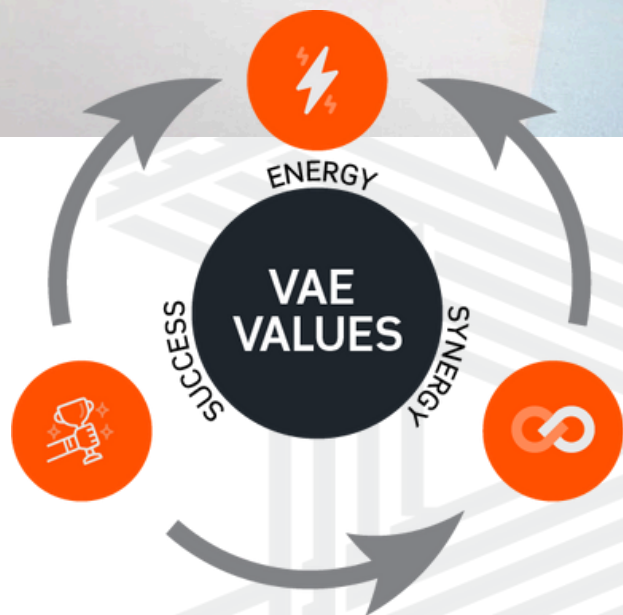
## ABOUT VAE



VAE Group is a leading provider of Heating, Ventilation, Air Conditioning (HVAC), and Building Technology solutions, with a history dating back to 1997. Today, we employ over 400 professionals across 11 office locations in Australia, New Zealand, and Papua New Guinea.

As a Tier 1 building solutions company, we are committed to upholding the highest standards of trust and integrity. We collaborate closely with our clients to develop customized solutions that meet their specific project requirements. Our expert staff are driven by a genuine passion for delivering outstanding results. This energy fosters innovative thinking, promotes efficient performance, and cultivates positive relationships.

Our team is comprised of in-house project managers, mechanical design engineers, and automation engineers. We have in-house drafting, and commissioning capability, as well as full mechanical and automation maintenance servicing capability.



At VAE Group, we stand behind our promise to provide **"Built in Certainty"** for all clients and stakeholders. With a strong track record of delivering high-quality and innovative projects, we strive to deliver solutions that offer lasting value. VAE is committed to providing the highest level of service and delivering solutions that exceed our clients' expectations.

## INNOVATION AND SAFETY



VAE Group is recognised as a leader in safety within our industry. We place the highest priority on the safety and well-being of our employees and subcontractors and take every measure to minimize their exposure to unnecessary risk. Our comprehensive approach to safety, which is a cornerstone of our company culture, is known as ...

"Safe at Work | Safe at Home | Mental Health,"

### Technology

We specialize in delivering Integrated Building Platforms (IBP), which seamlessly integrate all building services into a single user interface. Our solutions improve overall communication and coordination between different building systems, resulting in greater energy efficiency, improved occupant comfort, and reduced operating costs. By providing a holistic view of building operations, we enable building owners and operators to make informed decisions and optimize the overall performance of their buildings.

### Training

We invest heavily in the training, equipment, and competencies of our employees to ensure they can identify and mitigate risks before they arise. We recognize that the safety of our employees extends beyond the workplace, and we are committed to ensuring they arrive at and return home from work safely. To this end, we place a strong emphasis on vehicle maintenance, proper licensing, and ensuring our staff are fit and capable, no matter their location.

### Certification

We are committed to our safety philosophy and have implemented an accredited Occupational Health and Safety Management System that complies with ISO 45001. This system is audited by SAI Global and is integrated with our Quality Management System (ISO 9001 accredited) to ensure policy consistency and a culture of continuous improvement.



## WHY PARTNER WITH US ...

### 24/7 DIRECT DELIVERY SERVICE

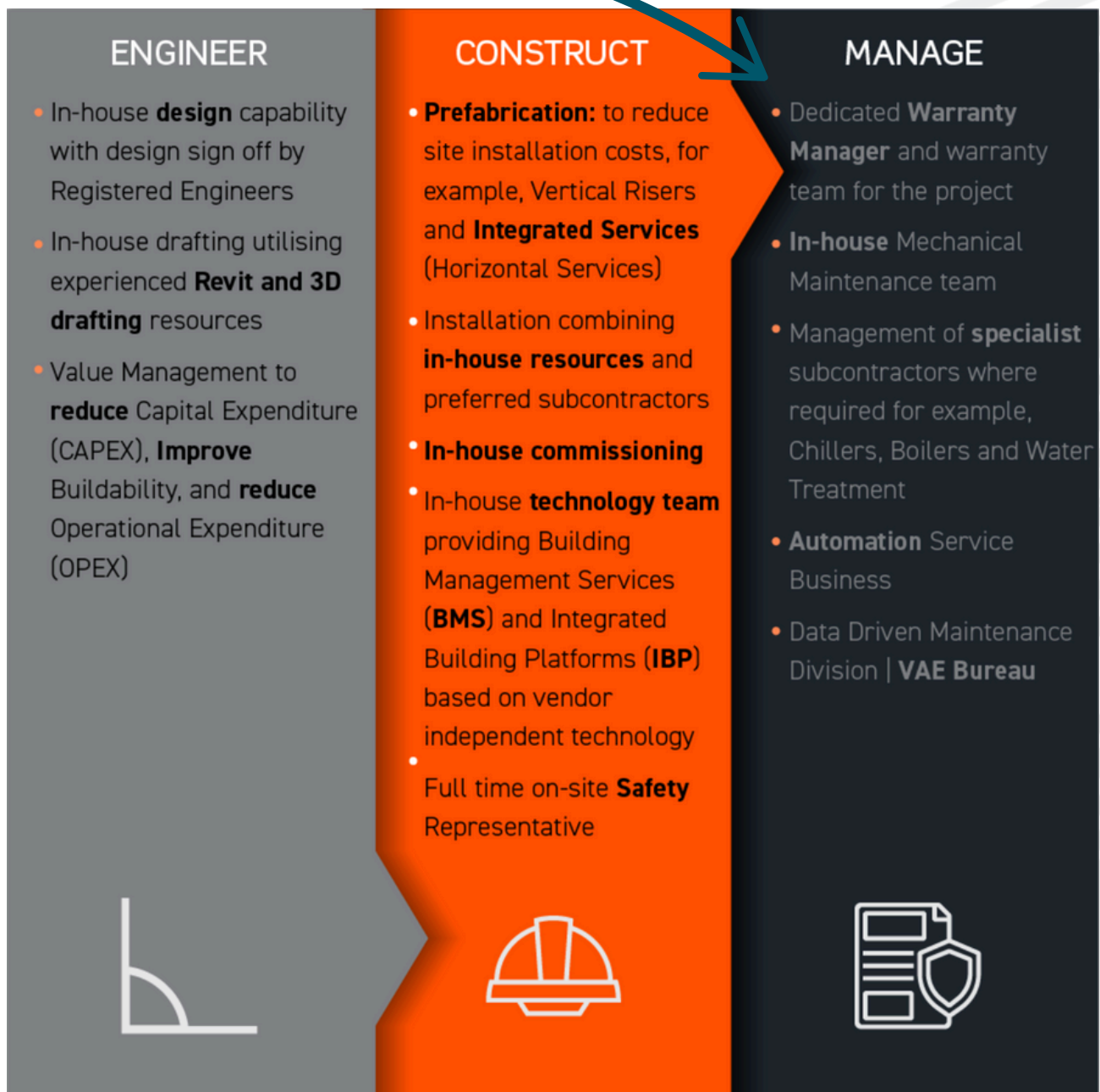
Our highly skilled technicians are available 24 hours per day, 7 days per week, and our clients are supported with a 24 hour state based Help Desk.

### IN-HOUSE SERVICES DELIVERY

Having our own in-house Service Team, allows us to mitigate risk, provide service continuity and gain a unique understanding of your assets and building, creating cost savings and efficiencies during the asset life cycle.

### LEAD TEAM APPROACH

All clients are supported by an appointed Client Services Manager and a Lead Team who will be responsible for your account for the duration of the contract, gaining knowledge and experience of the unique needs of the site.



## TECHNOLOGY SUITE



**TRIDIUM**  
niagara<sup>4</sup>

**DISTECH**  
**CONTROLS**<sup>™</sup>

**VAE Bureau**  
BUILDING SYSTEM PERFORMANCE

Our technology teams work with our mechanical teams to develop solutions that work, and our expert staff have an authentic passion for delivering outstanding results. This energy drives innovative thinking, efficient performance, and positive relationships.

VAE Group are a Tridium, Niagara and Distech approved systems specialist and we also have extensive experience in upgrading and integrating legacy systems using truly open protocol platforms which allows multiple BMS providers to easily service your facility and provide a more competitive and comprehensive service level.

VAE Bureau is a unique product specifically created for our customers, and it is our aim to empower end users by providing them with tools and capabilities to predict energy consumption and compare performance across their portfolio. In providing this service, our clients can make informed decisions to save energy and optimise capital replacements.

VAE Bureau uses advanced data analytics to gain insights into energy consumption patterns, identify areas of inefficiency, and make data-driven decisions to reduce energy usage and associated costs. Using our comprehensive reporting and analysis, users can monitor and track their energy performance, benchmark against industry standards, and identify opportunities for improvement.

Additionally, our in-house sustainability team actively engages with clients to understand specific objectives and working collaboratively to develop strategies which align with their goals. With the information generated by our tools, the sustainability team can provide valuable recommendations, implement energy-saving initiatives, and track continuous improvement over time.

## GREEN STAR & NABERS RATING

VAE has successfully completed several 5 star Green Star and NABERS rated buildings. We understand the complexities involved in designing a Green Star building and specialise in providing Smarter HVAC Solutions.

With a team of engineers who have extensive experience on both Green Star and NABERS projects, VAE provides the link between detailed design, installation, commissioning, fine tuning and servicing of HVAC systems and this in turn provides consistent, cost effective and reliable mechanical solutions.



### Green Star and NABERS Experience

**Verde Tower** 11 Level PCA Premium Grade, 11,500sqm  
Commercial office building | \$5.5M  
**Green Star Rating: 5 | NABERS Rating: 5.5**

**420 on Flinders (Ergon Energy Head Office)**  
9 Level PCA A-Grade, 7,000sqm Commercial office building | \$4.2M  
**Green Star Rating: 5 | NABERS Rating: 5**

**Riparian Plaza**  
53 Level PCA Premium Grade, 30,000sqm  
Commercial office building | \$2.8M  
**NABERS Rating: 5**

**150 Charlotte Street**  
18 Level PCA A-Grade, 11,049sqm Commercial office building | \$4.5M  
**Green Star Rating: 5 | NABERS Rating: 5**

**41 O'Connell Terrace**  
6 Level Commercial office building | \$5M  
**Green Star Rating: 5 | NABERS Rating: 5**

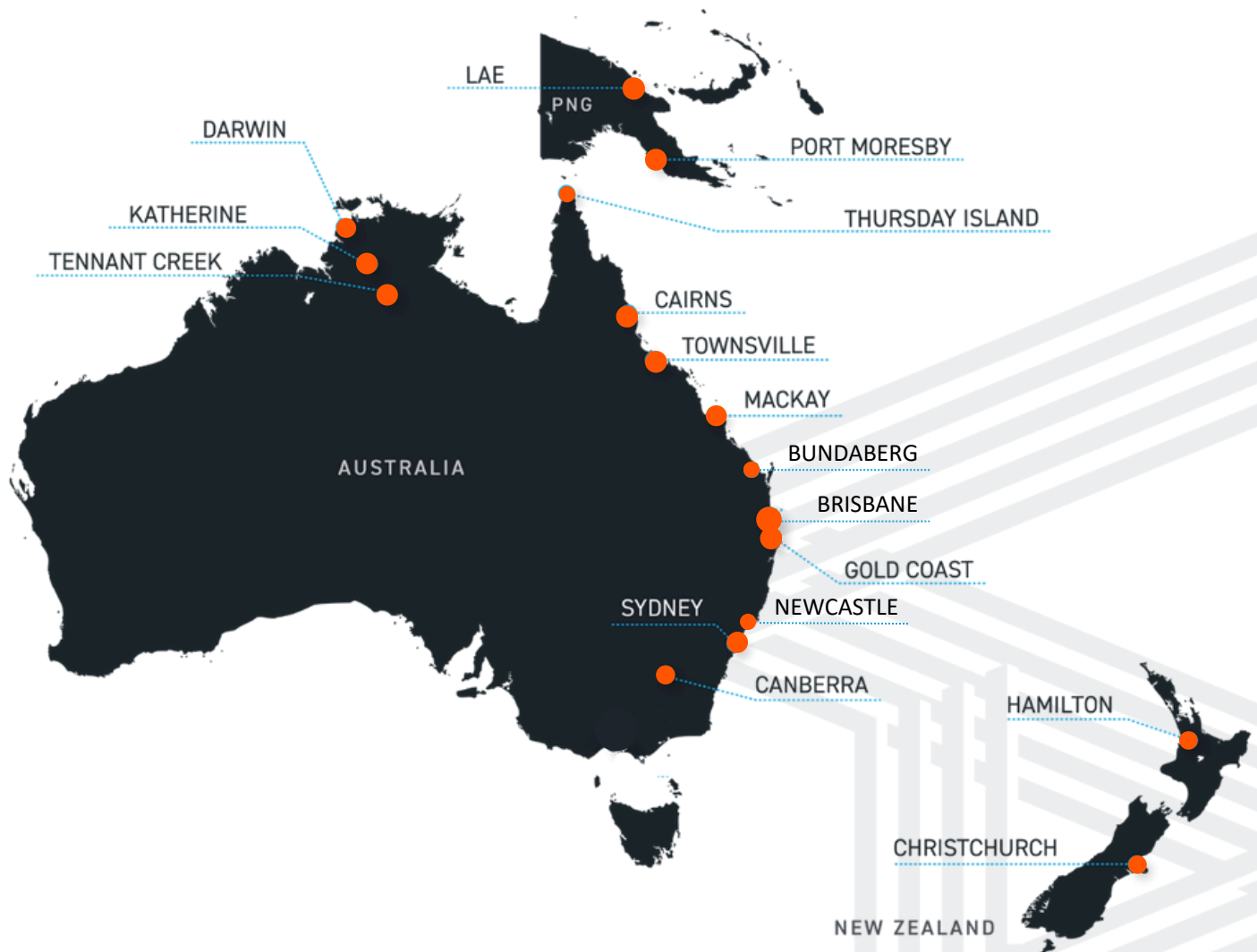
**Corporate Centre 1 - Blundall**  
16 Level PCA A-Grade, Commercial office building | \$1M  
**NABERS Rating: 4.5**

**Education Gateways Building (Edgy)**  
University of Southern Queensland Multi-purpose Building | \$5.6M  
**Green Star Rating: 5**

**900 Ann Street - Aurizon**  
15 Level PCA Premium Grade, 23,000sqm  
Commercial office building | \$5.6M  
**Green Star Rating: 5 | NABERS Rating: 5.5**



## LOCATIONS



### SERVICE

VAE Group provides services across Australia, throughout the Torres Strait and Papua New Guinea and in New Zealand. With over 450 staff based across 11 branches, our company has the capacity to support national and regional clients and a range of site sizes and facilities.

### SECTORS

SVAE Group work across a range of sectors including:

- Commercial Buildings
- Retail
- Industrial
- Education and Universities
- Hotels and Resorts
- Health Care & Allied Services
- Aged Care
- Local and State Government.

### PEOPLE

Our people are our strength and we firmly believe in developing our own in-house talent, empowering our employees to fulfill their potential. Our team are mentored, trained and respected, and we provide everyone with career and personal development opportunities.

## The University of Otago – School of Medicine

Client: Leigh's Construction

Value: \$24.3M

Completion: 2025

### Overview

VAE New Zealand was recently awarded the Mechanical Services contract, including medical gases and fire protection, for the University of Otago's new School of Medicine building in Christchurch. This six-storey facility is a key part of the Christchurch campus redevelopment on Oxford Terrace, designed to support a world-class health science research and education program for 4th to 6th-year Medical and Nursing undergraduates, as well as Postgraduate Nursing Studies. VAE is proud to be delivering this project in partnership with Leighs Construction.

The new building includes:

- Laboratory spaces
- Clinical research facilities
- Teaching spaces including lecture theatres
- Specialist Medical Imaging
- Staff and student workspaces and social spaces



According to the University

**“The new building will be a central pillar of the Te Papa Hauora/Health Precinct and enable greater collaboration with other organisations in the precinct”.**

### Scope of Works

The Mechanical Services scope includes:

- Artesian sourced heating and cooling system
- Roof top Chilled water plant consisting of four (4) Chillers
- Air Handling systems including VAV's and multizone Fan Coil Units
- Outside air processing Air Handling Plant
- PC2 Laboratory spaces
- Process chilled water system
- Hot water heating systems
- Medical and Laboratory Gases
- Building Management System
- Electrical for Mechanical





## Charles Darwin University (CDU) Education and Community Precinct

Client: DCOH

Contract Value: \$11.8M

Completion: 2024



### Overview

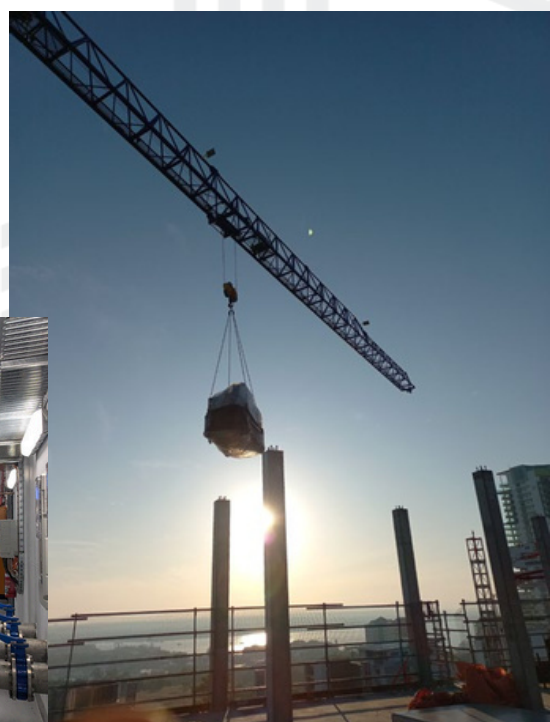
The CDU Education and Community Precinct project being built by DCOH (previously Halikos Construction) boasts an impressive design, located in a prime location on Cavanagh Street in the Darwin CBD. The \$250 million project is the centrepiece of the Darwin City Deal and is a partnership of the Australian and Northern Territory governments and Charles Darwin University. The city campus promotes interaction with the surrounding community by providing public areas for various community activities and educational opportunities that align with the vision of the Darwin City Deal initiative to revive the central business district of Darwin. The CBD campus will provide educational opportunities for the Territories growing population and will enhance Darwin's international competitiveness in the education sector.

### Scope of Works

Select Services were engaged by DCOH to undertake the mechanical scope of the project. This landmark project continues our commitment to provide high quality mechanical services in the Territory.

Our subcontract includes:

- the Design completion,
- full drafting in Revit 3D,
- Duct, and mechanical services pipework installation,
- mechanical electrical and
- the Building Management System using our own in-house automation team.



## James Cook University (JCU) – Engineering and Innovation Place (EIP) Townsville

Client: BESIX Watpac

Contract Value: \$7.3M

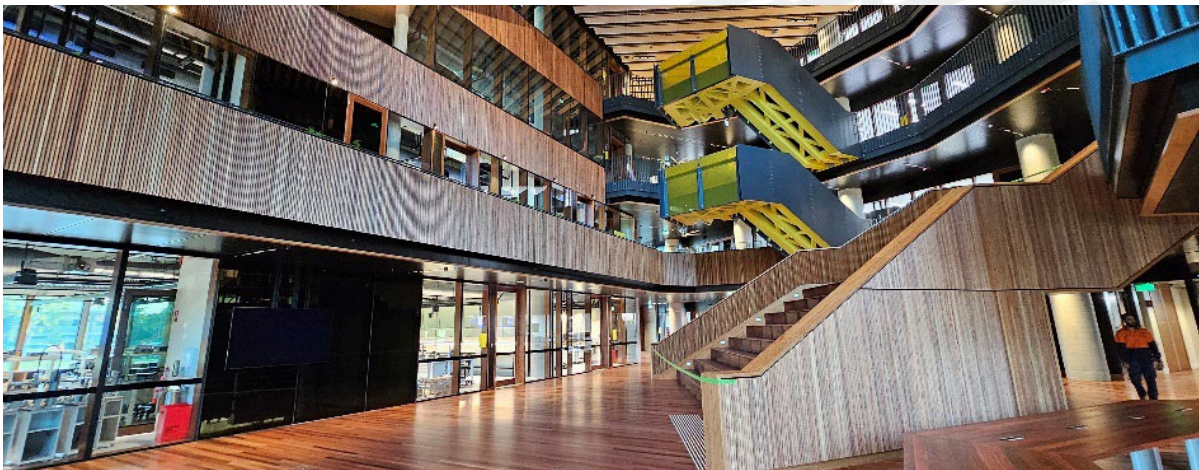
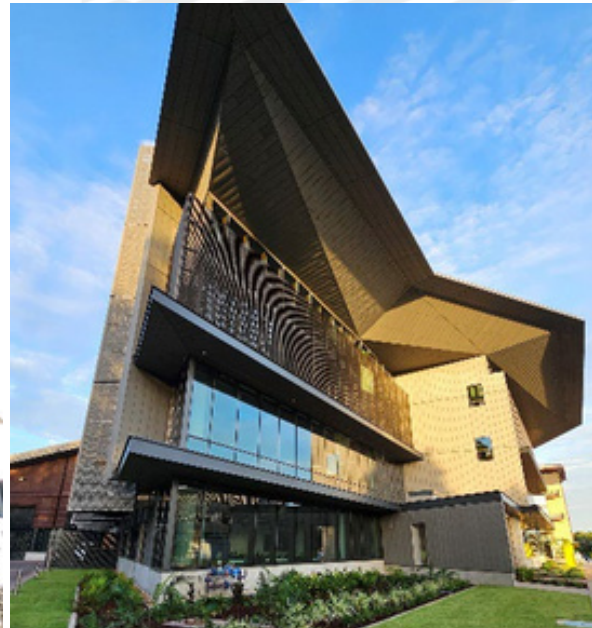
Completion: 2024

### Overview

VAE are proud to have reached practical completion for the first stage of the James Cook University Engineering and Innovation Place (EIP) project located at the JCU Townsville Campus. BESIX Watpac engaged VAE to undertake the design and construction of the mechanical services on the \$94m project with students taking occupancy at the start of 2024, following a three-year construction program.

### Scope of Works

As part of the Mechanical Services solution, external flues were designed to serve each floor with conditioned air, as well as exhausting from the fume cupboards in the laboratory spaces. VAE undertook the design and installation of spiral ductwork, to be installed as part of the prefabricated “Flue Frames” provided by BESIX Watpac. Utilising our in-house design expertise, VAE installed over 250 meters of stainless-steel spiral ductwork within the frames. The ductwork was fabricated in stainless-steel to provide durability and corrosion resistance from the gases expected to be exhausted from the laboratory spaces, as well as keeping in line with the design aesthetics of the building. The four-storey, 9,400m<sup>2</sup> building is the centre piece of JCU’s Innovation Hub, where undergraduate and post graduate Engineering and IT students, industry partners and researchers will congregate and collaborate.



## Qld Biosciences Precinct Chiller Replacement

Client: University of Queensland

Value: \$1.69M

Completion: 2023

### Overview

In a significant upgrade project, VAE Group was engaged by the University of Queensland to design and construct the replacement of two chillers for the Queensland Biosciences Precinct (QBP) located at the UQ St Lucia Campus. The Queensland Bioscience Precinct (QBP) is a collaborative research facility dedicated to human, animal, and plant biotechnological research. With a footprint of 35,000 square meters, the QBP comprises four large buildings, multiple research laboratories as well as conference venues and plant-growth facilities.

The Central cooling plant plays a critical role in the continuity of operations at QBP and its reliable operation is fundamentally important to the facility.

### Key Requirement:

The central chilled water plant upgrade project aims to not only to improve the efficiency and reliability of the QBP cooling systems, but also to align with the Universities sustainability goals and modern technology standards.

### Scope of Works

The initial stage of the project focused on the removal of existing equipment and systems associated with redundant chillers CH5 and CH3. This encompassed the demolition and safe disposal of chilled water and condenser water pumps, as well as mechanical services such as pipework and insulation.

Leveraging VAE's expertise, we designed, sourced, and installed the primary lifting gantry used to remove the existing chillers and install the new ones. To ensure future-proofing for UQ, the rig was engineered with a 7,000kg lifting capacity and equipped with twin remote-controlled electric chain blocks, each capable of handling up to 5,000kg.

With the space cleared and prepared, VAE Group moved on to the installation phase. A new chiller (CH-3) was installed and integrated into the existing system, with the intent to operate in parallel with the existing chillers, CH-1 and CH-2 (to be replaced in later stages). This parallel operation ensured uninterrupted cooling for the building while the replacement process continued.



VAE upgraded the existing Mechanical Services Switchboard (MSSB) and installed new control valves to the existing cooling towers condenser water supply and return pipework. The new chiller plant management system was seamlessly integrated with the University of Queensland's Metasys Building Management System (BMS).



### Results

The successful completion of this project provides the Qld Bioscience Precinct with Certainty in the reliable operation of the central plant to support the facilities role as a world-class research facility.

## QUT Kelvin Grove F Block Chiller and Cooling Tower Upgrade

Client: QUT

Value: \$928K

Completion: 2023

### Overview

The Queensland University of Technology (QUT) is an ambitious institution, with a growing research output focused on technology and innovation. Located in Brisbane, with over 50,000 students, it has two major campuses, Kelvin Grove and Gardens Point. The Kelvin Grove campus hosts the faculties of Creative Industries, Education, and Health as well as the QUT International College and the Institute of Health and Biomedical Innovation

VAE was engaged as Principal Contractor by Queensland University of Technology (QUT) under a Design and Construct contract to complete a chiller and cooling tower upgrade in F Block at the Kelvin Grove campus in Brisbane.



### Scope of Works

The project entailed the following works:

- Install only of a new chiller, pre-purchased by QUT due to long lead time.
- Supply and install of two new pumps and one new cooling tower.
- Supply and install of new make-up, condenser, and chilled water pipework reticulation.
- Upgrade of the condenser water header pipework in the chiller plantroom feeding up to the riser, including new structurally engineered brackets to support the riser and new pipework.
- Upgrade and relocation of the existing chemical treatment and side stream filtration systems.
- Upgrade of the existing refrigerant leak detection system.
- Supply and install of a new Mechanical Services Switchboard (MSSB) to serve the new equipment, including fault current limiting fuses and new sub-mains from existing MSB.
- BMS upgrade from legacy controllers to a Schneider Electric Struxureware system.
- Cranage and rigging.
- Supply and install of new walkways and ladders for the new cooling tower, including structural sign-off by a third party.
- Incidental builder works such as pouring of new concrete piers, strips, and plinths to accommodate the new equipment and repairing of the waterproof membrane.

### Key Challenges

- Highly restricted space within the existing cooling tower enclosure and the rigging path for the new chiller into the existing chiller plant room. Our in-house project logistics team was involved from a very early stage and attended the site inspections during the tender phase to verify the best rigging routes and identify any equipment needed in order to avoid any issues during the delivery phase.
- All works were carried out on a “live” university campus with VAE responsible for workplace Health and Safety as required under our Principal Contractors obligations.

## Logan and Gold Coast Campus Chiller Upgrades

Client: Griffith University

Value: \$6.3M

Completion: 2023

Griffith University, ranked in the top 2% of universities worldwide, operates five campuses in South East Queensland alone. Having successfully collaborated with the University on multiple previous projects, VAE was proud to further strengthen this partnership by being appointed as the Principal Contractor for the Chiller Upgrade projects at the Logan and Gold Coast campuses, which serve 2,000 and 21,000 students, respectively.



### Logan Campus - Scope

- Demolition and removal of three redundant chillers, two cooling towers, two pressurisation tanks, seven pumps and two exhaust fans in L02
- Demolition, removal, and replacement of eight pumps in buildings L03, L04, L05 and L08
- Supply and installation of three new water-cooled chillers and three new cooling towers.
- New chilled and condenser water connections to the existing infrastructure, including insulation and sheathing as required
- Mechanical-electrical modifications, including the demolition of redundant boards and supply and installation of one new MSB and one new MSSB in L02
- Modifications to existing Schneider Electric BMS to accommodate new equipment, including update of control strategies and graphic update to reflect new arrangements and layouts
- Supply and installation of new DB-1 and DB-2, including RCBO's for all lighting and power

### Gold Coast Campus - Scope

- Demolition and removal of three redundant chillers and 21 redundant pumps
- Supply and installation of three new air-cooled chillers for compounds G21, G22 and G29 and three new associated chilled water pumps
- Supply and installation of 18 new chilled water pumps in several other buildings
- Mechanical-electrical modifications, including the supply and installation of new MSSBs in Buildings G01 and G29
- Modifications to existing Schneider Electric BMS to accommodate new equipment, update control strategies and graphic pages to reflect new arrangements and layouts

### Key Challenge:

A key requirement of the projects was the safe execution of site works for all stakeholders whilst working on a "live" campus, including rigging, replacing existing chilled water plants across multiple locations, crange and cutover of the new plant with minimal disruption to campus operations.

## Griffith University Nathan Campus – N80 Central Chiller Plant West

Client: Badge Constructions

Contract Value: \$5.94M

Completion: 2022

### Overview

The new N80 Central Chilled Water plant replaces the existing Nathan Campus central plant and will provide the University with additional capacity for planned new buildings. The project involved the installation of four (4) new high efficiency water cooled chillers within the new plantroom, including four new cooling towers, associated pumps, and new Mechanical Services Switchboards (MSSB).

Extensive inground chilled water reticulation pipework was required to connect the new N80 Chillers to the Griffith University Nathan campus chilled water infrastructure that serves multiple existing buildings over the Nathan Campus, as well as future planned buildings. The project required complex logistics that were meticulously carried out by our VAE rigging team, placing the chillers within the new plantroom. A time lapse of one of the chillers being installed can be viewed [here](#). VAE are thrilled to have worked with Badge and Griffith University on the N80 Central Chiller Plant West.



### Key Achievements

- Cutover of the new chilled water precinct to the existing University “on-line”
- Complex logistics associated with placing the chillers within the new plantroom carried out by our VAE rigging team

## Gardens Point D Block Chiller and Pump Upgrade

Client: QUT

Value: \$537K

Completion: 2022

### Overview

QUT's Garden Points campus is located in Brisbane's city center, beside the Brisbane River and adjacent to the City Botanic Gardens. With over 50,000 students across both campuses, the Garden Point Precinct includes the Business, Law, Science and Engineering Faculties.

VAE was engaged as Principal Contractor by Queensland University of Technology (QUT) under a Design and Construct contract to complete this project in D Block at the Gardens Point campus in Brisbane. The project comprised the replacement of an existing high-load chiller that had reached end-of-life status. The associated pumps serving both the low-load and high-load chillers and the secondary pumps were also replaced to better suit chiller performance and relocated to provide sufficient clearance in the congested chiller plantroom. The pipework reticulation serving the chilled water and condenser water systems within the chiller plantroom also required significant alterations to suit the new layout.

### Key Requirement

The works were carried out during Wintertime to provide almost continuous low load operation throughout the duration of the project. All works were carried out on a "live" university campus with VAE responsible for workplace Health and Safety as required under our Principal Contractors obligations.

### Additional Works

Additionally, VAE carried out the replacement of fuse assemblies to circuit breakers and installation of an IP2X chassis within the existing MSSB. Although not originally a project requirement, VAE offered this work as a Value Management option after visually inspecting the MSSB during the tender briefing session organised by QUT, and subsequently was finally incorporated into the contract.



## Harris Fields State School, Logan

Client: Queensland Government

Builder: QBuild

Completion: 2020

The Harris Fields State School is located in Logan City to the South of Brisbane. Originally opened in 1975. Today they are a multicultural diverse school, with enrolments of 664 students from Prep to Year 6. VAE was contracted as the Principal Contractor for the project which will be completed in 2020. The project involved the supply, installation, and commissioning of 33 off air conditioning systems and associated outside air ventilation systems across 9 buildings. Due to the age of the school the project involved a large focus on Asbestos management and safe removal across this site.



**Harris Fields State School**  
To give, to question, to excel

## Yugumbir State School, Logan

Client: Queensland Government

Builder: QBuild

Completion: 2020

The name 'Yugumbir' (You-gum-beer) is an aboriginal word for the name of a district lingual division or tribe that had its territory as the basins of the Logan and Albert Rivers. The school opened in January 1986 with an enrolment of 166 in Years 1 to 7. They now have an enrolment of just over 1100 students from Prep to Year 6. VAE was contracted as the Principal Contractor for the project which will be completed in 2020. The project involved the supply, installation, and commissioning of 12 off air conditioning systems and associated outside air ventilation systems across 4 buildings. Due to the age of the school the project involved a large focus on Asbestos management and safe removal across this site.



**Yugumbir State School**  
Each to succeed

## Beechmont State School, Sunshine Coast

Client: Queensland Government

Builder: QBuild

Completion: 2020

The Beechmont State School is located in Beechmont, in the Scenic Rim region of Queensland. Beechmont is a small school of only 151 students from Prep – Year 6 VAE was contracted as the Principal Contractor for the project which will be completed in 2020. The project involved the supply, installation, and commissioning of 21 off air conditioning systems and associated outside air ventilation systems across 4 buildings.



## Mount Nebo State School, Mount Nebo

Client: Queensland Government

Builder: QBuild

Completion: 2020

The Mount Nebo State School is located in the greater Mount Nebo area. The school was originally established in 1931 as a 1 teacher school. The school today has grown to include two classrooms, a tennis court, an OSHC, a library, a multi-media room and several outdoor learning spaces. Still a small school with 37 enrollments from Prep – Year 6 VAE was contracted as the Principal contractor VAE was contracted as the Principal Contractor for the project which will be completed in 2020. The project involved the supply, installation, and commissioning of 2 off air conditioning systems and associated outside air ventilation systems.





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