PP 100010900

VOLUME 52 I NUMBER 1 I SUMMER 2026

IHEA
Institute of Healthcare Engineering, Australia

HEALTHCARE FACILITIES



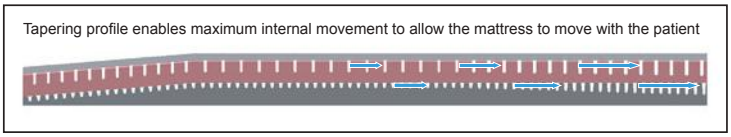
FEATURED INSIDE

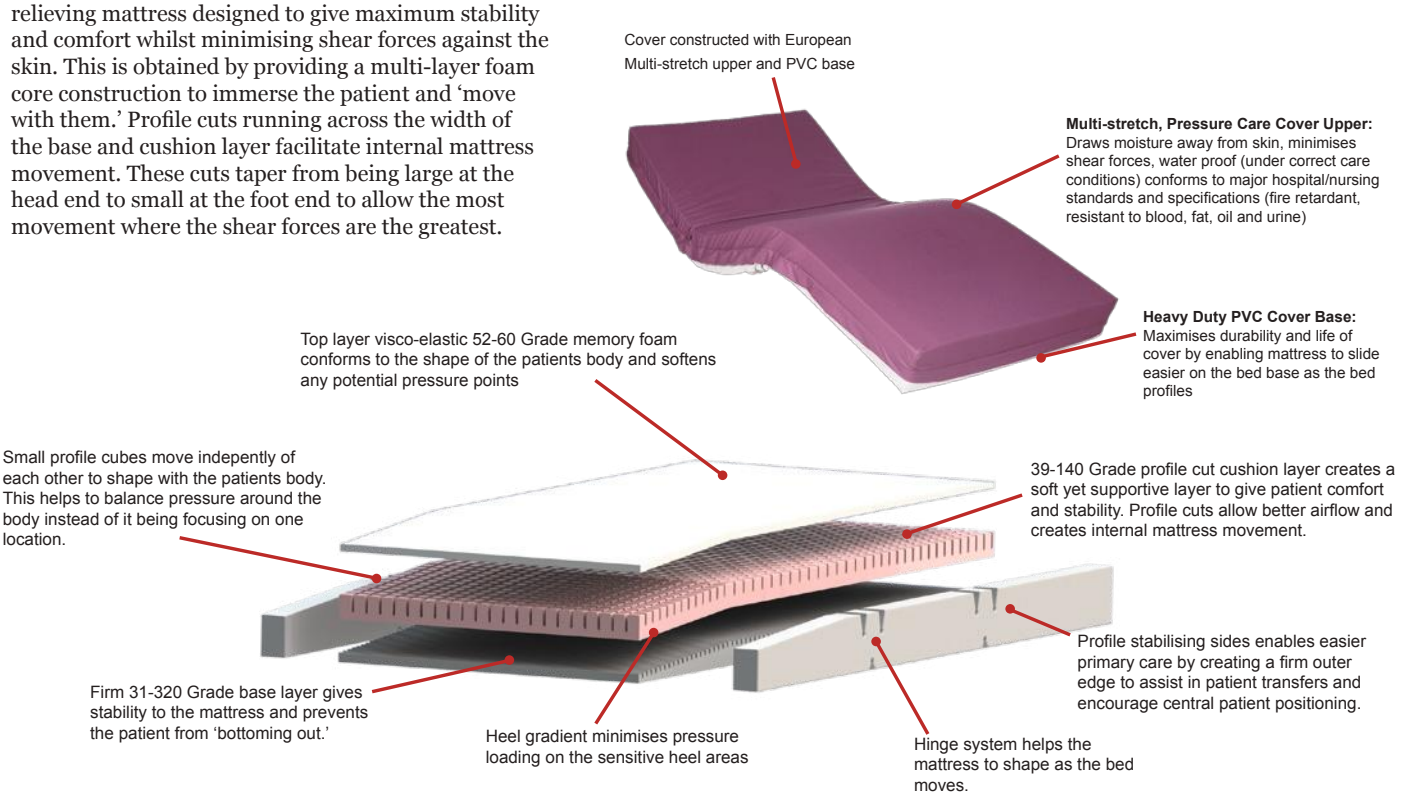
LEGIONELLA RISK MANAGEMENT IN PREMISE PLUMBING SYSTEMS
IL4 SPECIAL STUDY: STEP 1 CRITICAL SUCCESS FACTORS
FUTURE-PROOFING HEALTHCARE INFRASTRUCTURE

With more than 20 years experience in the Healthcare market, Soularch are confident to say that we understand and care for our clients. Soularch's principles are based on trust, credibility, reliability and expertise. Our secret: Excellent service and top of the line products.

Impel

The Forte *Impel* is a Medium-High care pressure relieving mattress designed to give maximum stability and comfort whilst minimising shear forces against the skin. This is obtained by providing a multi-layer foam core construction to immerse the patient and 'move with them.' Profile cuts running across the width of the base and cushion layer facilitate internal mattress movement. These cuts taper from being large at the head end to small at the foot end to allow the most movement where the shear forces are the greatest.





Over-bed Table

Lightweight mobile table positions over bed or chair





Bedside Hutch

1 Lockable draw, 1 standard draw and 1 drop draw

www.soularchhealthcare.com.au

A versatile low electric bed, designed for healthcare use

The **Soularch Apex bed** includes a width and length expandable sleeping surface, which expands the bed from single to king single and length from Standard to extended 2200mm. The Soularch Apex bed has a partial wheel locking system, allowing for easy moving of the bed, and comes with electric bed features of Hi/Low, Back Elevation, Knee Break, Trendelenburg function and Fowler chair position.



Key Features

- Sleep Deck Surface Expandable Width and Length
- Central Locking Foot End Castors
- 250kg Safe Working Load
- Linak Operating Platform

Specifications

- Sleep Deck Width: 900mm – 1050mm
- Sleep Deck Length: 2000mm – 2200mm
- Minimum Height: 184mm
- Maximum Height: 760mm
- Safe Working Load: 250kg
- Maximum Back Rest Angle: 65°
- Maximum Knee Break Angle: 32°
- Trendelenburg +-: 12°

Warranty

- 10 years on Frame
- 5 years on Electronics (motors & control box)
- 1 year on Handset and leads



St Vincent's Care Services Kew

"People are core to everything we do. We create environments that enhance the relationship between people and their surroundings. This is people centred design."

This year, smith+tracey architects celebrate 78 years of practice. During this period we have developed a major presence and awareness within the seniors living, aged care, community and education sectors. We welcome the opportunity to continue our contribution in achieving better designed outcomes for senior living environments.



Mercy Place Mentone



Princeton View Aged Care Brighton



BASScare Morgan Glen Iris



Chirnside Views Aged Care

In 1948, Des Smith and Dan Tracey set out to create an architectural practice recognised for its design of community and sense of longevity. Their ethos championed 'people' engagement, which formed the foundation of lifelong friendships and acquaintances. Today, our collaborative team of like-minded professionals continue to strive and to develop trusted long-lasting client relationships.

As we move forward we continue to preserve our design principals, to support and enhance liveable environments for our aging population, carer workplaces and a variety of community focused built outcomes that provide opportunities to gather, recreate, meet, grow, celebrate, reflect and share life's values.

www.smithtracey.com.au | **03 8808 6444** | **info@smithtracey.com.au**

smith+tracey architects





CONTENTS

7 Editor's Message

9 National President's Message

BRANCH REPORTS

12 NSW

19 QLD

24 VIC/TAS

31 WA

38 A brief conversation with Alex Rodger

42 IHEA National Conference 2026 Program

2025 CONFERENCE PAPERS

47 Understanding current practice: Legionella risk management in premise plumbing systems

67 IL4 Special Study: Step 1 Critical success factors

74 Future-proofing healthcare infrastructure

83 Day surgeries – Current and future infrastructure challenges

87 **INDUSTRY NEWS**





Cover:
IHEA National Conference 2026
Seaworld Resort Conference Centre 4–6 March

IHEA NATIONAL OFFICE
Direct: 1300 929 508
Email: ihea.members@ihea.org.au
Website: www.ihea.org.au

IHEA NATIONAL BOARD

National President
Michael Scerri

National Immediate Past President
Darryl Pitcher

National Treasurer
Rohit Jethro

Standards Coordinator
Cameron Ivers

Directors
Michael McCambridge, Cameron Ivers, Fred Foley, Jana Simpson, Danny Tincknell, John Mihalinac and Jon Gowdy

IHEA ADMINISTRATION

Membership
Vanessa Gallina:
ihea.members@ihea.org.au

Editorial
Fred Foley
ihea.editor@ihea.org.au

Visit the Institute of Healthcare Engineering online by visiting www.ihea.org.au or scanning here →

IHEA MISSION STATEMENT
To support members and industry stakeholders to achieve best practice health engineering in sustainable public and private healthcare sectors.

ADBOURNE PUBLISHING
www.adbourne.com

ADVERTISING
Robert Spowart
T: 0488 390 039
E: robert@adbourne.com

PRODUCTION
Sonya Murphy
T: 0411 856 362
E: production@adbourne.com

The views expressed in this publication are not necessarily those of the Institute of Healthcare Engineering Australia or the publisher. The publisher shall not be under any liability whatsoever in respect to the contents of contributed articles. The Editor reserves the right to edit or otherwise alter articles for publication. Adbourne Publishing cannot ensure that the advertisers appearing in The Hospital Engineer comply absolutely with the Trades Practices Act and other consumer legislation.
The responsibility is therefore on the person, company or advertising agency submitting the advertisement(s) for publication. Adbourne Publishing reserves the right to refuse any advertisement without stating the reason. No responsibility is accepted for incorrect information contained in advertisements or editorial. The editor reserves the right to edit, abridge or otherwise alter articles for publication. All original material produced in this magazine remains the property of the publisher and cannot be reproduced without authority. The views of the contributors and all submitted editorial are the author's views and are not necessarily those of the publisher.



Q-ton Air to Water

Future-Proof Your Hot Water

Reliably delivering 90°C hot water in -25 °C conditions, Q-ton is a next-generation hot water heat pump that helps healthcare facilities lower operation costs, slash emissions and reduce maintenance and downtime - ensuring dependable supply for critical operations.

LOWER OPERATING COSTS
Drastically reduce operating costs by reducing energy usage.

REDUCE CARBON EMISSIONS
76% less emissions than gas boilers & 74% less emissions than electric heaters*

FLEXIBLE DESIGN
Easily retrofitted into existing buildings, replacing boilers or electric systems.

ANTI-LEGIONELLA CYCLE
Programmable anti-legionella cycle to assist with regular thermal disinfection.

ADVANCED CONTROL
Easily integrated into building management systems for advanced control & monitoring.

MITSUBISHI HEAVY INDUSTRIES
HOT WATER SOLUTIONS

Q-ton is eligible under Victoria's VEU Program and NSW's ESS, giving facilities access to thousands in rebates when upgrading inefficient hot water systems.

commercial.mhiaa.com.au | 1300 138 007

*Intermediate season: Air on at 16°C, Water on at 17°C, Water off at 65°C.

Editor's Message



I BOUGHT A NEW car! You know one of those expensive four-wheel drives fitted with every accessory that could possibly be squeezed onto its chassis, and no! there will not be an accompanying caravan as Hell Has Not Frozen Over… yet!

It is an excellent vehicle, it drives superbly, and that new car smell, you just can't beat it can you? Yet, in spite of the luxurious motoring potential, I have found something hidden deep within its psyche that I am not as ecstatic about as I would have expected. My new car has Advanced Driver Assist Systems (ADAS) and it believes I cannot drive! It dutifully reminds me that, I have either exceeded the speed limit or have drifted too close to the white line or that I am driving a little too close to the car in front, which by the way happens to be travelling in the right-hand lane at 10km below the posted speed limit. I don't even try to pass behind a slow turning car anymore, and if anything "Comes within Cooee" (look it up) it goes ape with flashing lights and warning beeps. Once, on a long country drive, I activated the "Advanced Lane Keeping Mode" (a kind of autopilot) where the vehicle would automatically adjust the steering to keep the car centred in the lane, all was going well, and yes I was enjoying the experience, that was until the "white lines" became a "white line" causing it to become confused, resulting in it cancelling itself with only a brief beep and quick message. I had to quickly take control, or we would have found ourselves in the middle of a farmer's paddock, and they can get real mean if you break their fences. Being sceptical of this new automotive marvel, I was ready to act but I am sure there are some trusting souls who would let their attention drift into a stupor by revelling at the passing scenery. The user manual says not to rely wholly on this automation and having experienced the untidiness of ADAS first hand, I have to ask the question: Is this automation necessary?

The advertising spiel will say it is about safe driving, and yes! There are some people who should always take public transport and never be allowed to sit in the right seat, EVER! But what gets up my nose is that someone somewhere, who by the way has absolutely no inkling of my driving experience or ability, decided to classify me as being just as incompetent and that their Artificial Intelligence (AI) was better at controlling my primary means of transport than I am. Remember the ADAS does not just enhance driving, it actually takes control.

My sceptical brain believes this is more about risk management than creating a safer driving environment with the main benefactors being the insurance companies. I suppose I could always turn the ADAS off, but to do so would mean that I have to go through a torturous multi stage process every time I wanted to take the car down the road for a loaf of bread, so I just throw my hands up in surrender and concede that it is easier to go with the flow and leave it activated. Also, I just bet my beloved new car would record me being underhanded and if asked, would happily dob me into my insurance company as being a non-compliant customer and that would result in my premiums skyrocketing.

Even I have bowed to this insurance pressure and installed internet-based surveillance cameras to protect my family's personal and financial wellbeing. They say a picture is worth a thousand words so what better way to explain to your insurance company that you were not at fault by showing them a nice high-definition video.

Data is the new currency and information is power. The connectivity of the Internet of Things means that the data

you personally collect may not necessarily be or remain your property or even in your control. Don't believe me about your data not being your own? Read the T&Cs next time you sign up or activate something new. There is ample evidence that everything we do, say, look at, search for, purchase or even visit, is being monitored and thus recorded somehow by someone somewhere. You do this unwittingly every minute of everyday without giving it a second thought and for free. Ever wondered who your smart phone or smart watch is talking to and just what is it saying? There was a case where one brand of smart remote vacuum cleaner was sending floor plans to its over lord master. There was another where a medical device was transmitting anonymous patient data back to the parent company in the name of product development.

Data is useless unless it is transformed into information and that is where Artificial Intelligence (AI) comes in. Why AI? because humans suck at data analysis, all that personal bias stuff and who has the time and money to sift through terabytes of data noise anyway. But there is a problem: AI works via rules and who writes those rules, the very same flawed biased time poor humans! It is true that Artificial Intelligence has produced advances in efficiencies of systems, broadened our information base and opened new pathways in medicine, science and technology but at what cost?

At the moment there are approximately 8 billion people on this planet, so how can someone write rules for an AI algorithm to follow that satisfies the nature or situation of every one of us mere earthlings. And there is one aspect, we as humans must also be wary of, and that is the lowering of our communal intelligence. We can be lazy when we want to be, so why learn to do or know something when Dr Google already has the answer. However, that answer is only as accurate as the data and algorithm from which it was derived. If you do not know how to achieve the answer, how do you know what Dr Google is telling you, is correct? There is a person across the big pond who shouts Fake News when something he hears or reads does not fit into his belief structure. Is he correct? How would you know? How can you believe anything nowadays? Artificial Intelligence should be a tool, no different to a spanner, a spade or a pen to be wielded by a human under their control. When we allow Artificial Intelligence to be the master and to control how we act out our lives, what we see, what we think and learn, even how we drive, we are endangering the very essence of who we are.

There is a proverb that states: "It takes a village to raise a child" into a productive member of society. Artificial Intelligence is like a newborn child. It needs to be nurtured by the world village and not by a few who think they know what's best. If we don't AI could grow up to become a spoiled brat.

Oh if you must drive in the right lane please do the posted speed limit!

With respect and kindness
Frederick Foley – Editor



National President's Message



IN DECEMBER THE Western Australian Government announced a $700,000 investment into an innovative artificial intelligence pilot program at Royal Perth Hospital to improve the State's health system and increase the bed availability during the winter peak.

The trial will use artificial intelligence to predict patient length of stay and then streamline hospital workflows to better coordinate care. The technology will schedule key activities such as medical imaging, laboratory tests, pharmacy medication, and preparing discharge summaries. Data from this system is also fed into the live dashboard to improve management and visibility across the entire public health system, and if successful the system could be rolled out across the health network.

Across the country, our communities demand better performing and more available healthcare and leaders scan for solutions that will deliver. Artificial intelligence is one such answer with broadscale application across our health systems. Think about applications such as scribes in emergency departments, digital assistants for allied health, and remote patient monitoring programs that link multidisciplinary teams to in-home care. Telehealth and virtual care landscapes also continue to evolve as technology-supported models of care improve access and convenience.

In this dynamic era of rapid innovation and rising expectations, healthcare facility designers, builders and operators face increasingly complex challenges. Together, we are riding a wave train of progress, with each crest building on the last. Never has it been more important to carefully align our systems, infrastructure and technologies. The Institute of Healthcare Engineering stands ready to support you and your colleagues in delivering excellence—through the tools we have today, and those of tomorrow.

We are always better together, and our National Conference in March on the Gold Coast is shaping up to be a cracker of a conference, and an absolutely ideal opportunity to learn, share, network and grow together. I look forward to welcoming you there,

All the best,

All the best,
Michael Scerri

Medical Air & Gas Solutions



BOGE AIR.
THE AIR TO WORK.

Redundancy, modular configuration and smart BMS communication leading excellence in healthcare

For over 50 years, BOGE has worked with well-known hospital equipment suppliers and manufacturers of medical devices to develop customised, fully compliant system solutions for the supply of medical-grade compressed air. safety of patients always has top priority.

Reliability is key – after all, we are dealing with the safety of both patients and medical staff alike. With the uninterrupted need for medical grade compressed air all across the hospital – anywhere from the patient's bedside to the operating theatre – a compressed air generation system with redundancy is required.

More and more hospitals are entrusting their medical grade compressed air systems to BOGE due to a reliable supply combined with exemplary efficiency and ..... READY STOCK in Australia.

- Fully compliant and safe
- Oil Free Medical Air
- Oxygen gas generators
- Surgical Tool Air

Medical grade Compressed air and Gas systems
Leading the way in Healthcare Industry



O2 N2 ONSITE IS OUR WORLD

BOGE On-site Oxygen enhances the security of supply in modern hospital facilities.

On-site oxygen production eliminates the need for external deliveries and reduces operating costs, as it eliminates the need for storage and cylinder logistics. Furthermore, it enhances planning security, as the supply remains within the company's own area of responsibility.

Hospitals and clinics can generate oxygen autonomously and directly on-site using the Inmatec oxygen generator, thereby enhancing healthcare safety and reducing costs.

Combined with Boge oil free medical compressed air, this results in a comprehensive solution that is optimally tailored for hospitals and medical equipment suppliers.

Medical compressed air can be supplied to sensitive areas such as operating rooms, intensive care units, and laboratories.

As a specialist with many years of experience in certified, oil-free compressed air systems, Boge helps clinics ensure absolutely impeccable breathable air quality in terms of hygiene, reliability, and compliance with regulations.

Inmatec-Boge offers a comprehensive, integrated solution, demonstrating how oxygen generation and medical compressed air for clinics not only provide a high level of planning reliability but also reduce the number of interfaces. This combination enables a fully integrated supply solution, from on-site generation to the safe delivery of oxygen to clinics, laboratories and hospitals.

BOGE Compressors Australia

+61 3 5940 5913 au@boge.com

www.boge.com/en-au

BOGE COMPRESSED AIR & GAS SOLUTIONS

New South Wales/ACT

HELLO EVERYONE FROM the NSW ACT IHEA branch – I hope you all had a great Christmas break.

A big shout-out to everyone who worked over the holiday period, keeping the engine running. While it's often a quieter time, it can also be challenging with limited staff available when issues do arise.

One issue we dealt with involved a large remote community aged care facility. The NUM on duty heard the generator running and phoned it in. When we attended site, we confirmed the network grid was down and we'd need to wait for it to be restored.

We contacted the network provider, but they had no information - they weren't even aware of the outage - and advised their limited emergency crews were hours away. In the meantime, we checked all essential services, confirmed everything was operating as required, verified fuel levels, and calculated estimated generator run time before refuelling would be needed.

After around three hours, the network emergency crew arrived and discovered that an ancient high-voltage supply cable had shorted out at high level opposite the substation. This meant another specialist crew would be required to carry out repairs. To complicate things further, the substation itself was of the same vintage as the cabling, and the switchgear was in need of upgrade.

The big question was: how long would this take?

The answer was - they didn't know.

Decision time and all the important decision makers were all on holiday.

At this point, most key decision-makers were on holiday, so we had to make a call. Based on fuel consumption calculations, we determined the site had approximately 12 hours of run time across both generators. We organised fuel deliveries every 10 hours and discussed with the network provider the need to have a large mobile generator with substantial fuel storage on standby, just in case one of the site generators failed.

After eight hours, the network provider advised power would be restored within 24 hours, which eased the pressure somewhat. We put a monitoring and refuelling plan in place, and as advised, 24 hours later — and after a few fuel top-ups — power was restored and the generators fell silent.

For most staff and residents, all they noticed was a brief flicker of lights. The system worked, and all was well over Christmas.

On 14 November, we held our PD Day at RPA Hospital, and I'd like to sincerely thank all IHEA RPA members and staff, especially our new NSW IHEA vice president, Anne Louise who helped make this one of our biggest and most successful events yet.

The theme was "Delivering Major Medical Infrastructure" and



SAFER WITH

SEISMIC

eurofast



We add value by making you Safer with Seismic so your buildings and communities can ***Treasure Life's Moments***

- Engineering reports (forensic/component)
- IL4 Special Study reports
- Engineering (plant/framing) designs
- Pipe and Riser Anchoring Engineering and Design
- Seismic Engineering and Design
- Structural Engineering Certification
- Onsite anchor testing and reports

Call 1300 AS 1170 or contact via email on seismic@eurofastglobal.com



"Constructing the Digital Operating Room", covering topics such as:

- Installation of large medical equipment in hospitals — including power requirements, lead lining, delivery methods, HVAC systems and controls
- Innovations in digital operating rooms

For the first time, we collaborated with NSW SMBE (Society for Medical and Biological Engineering). This is something we've talked about for a long time, and it was great to finally join forces. A big thank you to President Bruce Morrison and Vice President Donald Hazra for bringing their community and sponsors together with ours to make the day even bigger.

We also heard from Ian Brown from the National Committee for the College of Biomedical Engineering (Engineers Australia), who spoke about the role of Engineers Australia and how greater collaboration across our groups can lead to better outcomes for the industry. The key takeaway was the value of inviting members from all three organisations to events, building networks and sharing ideas.

A huge thank you to Wilhelm Integrated Solutions, our Platinum Sponsor, for delivering one of the most impressive presentations we've seen. Jodie Franks, Customer Success Manager, set the scene by explaining Wilhelm's role in digital theatres, before Chad Wilhelm calmly took over and introduced his team live from their demonstration theatre via multiple cameras and microphones.

Technically, Wilhelm connected to the conference via TEAMS and with their 4K VoIP solution which routed multiple video sources to the RPA Kerry Packer Auditorium.

We then watched a three-way live video conversation unfold between the conference hall, Wilhelm's head office, and an actual live operation in a hospital, where a doctor explained how the system is used for training and recording. I don't think there was a single person in the room who wasn't completely gobsmacked. Thank you again to Chad and the entire Wilhelm team for an unforgettable presentation on the 4k digital theatre and how flexible the system can be and the speed of installation, include cost efficiency for installers and operating staff.

Special thanks to @Dr Glen Schlaphoff, who added powerful real-world context by livestreaming from Liverpool Hospital to demonstrate how digital interventional suites integrate imaging, patient data, and surgical tools in real time, enabling surgeons to make more informed decisions during procedures resulting in better patient outcomes.

I was up next presenting on AS 3003 Body and Cardiac Protection — and while I'm much better behind the scenes than at the front, I made it through before handing over to Hamish McMurray from BMM Engineering. Hamish provided a clear and practical

Aquarius Technologies

Advanced Water Treatment Controller









Controlled solutions. Engineered excellence.

www.aquariustech.com.au

sales@aquariustech.com.au +617 3274 4750

Proudly Made In Australia

Learn More..



AMBER
Smart Systems

Australia's first specialist plumbing supplier dedicated to healthcare facilities

Over 30 years experience in delivering major healthcare projects and supporting healthcare maintenance plumbers.

- Supply of all plumbing fixtures for existing facilities
- Thermostatic Mixing Valves and genuine spare parts for all commercial brands
- Refurbishments and renovations – full room solutions
- Extensive stock of spare parts across major brands
- Bathroom ensuites to back of house utilities



Extensive stock, including spindles across key brands, hand held showers, hoses, sliders, mental health tapware, TMV valves, and service kits.

Visit **www.ambersmartsystems.com.au** or call us on **0418 246 967** for immediate answers

explanation of the new standards for electrical switchboards, including real-world examples for modifying boards of 125 amps and over. It was refreshing to see practical solutions being discussed for everyday challenges.

Thank you also to Katie Reidpath (Siemens) and Andrew O'Neil (On Constructions) for walking us through the complexities of delivering X-ray, MRI and Angio equipment into hospitals, including building works and delivery methods.

As always, our faithful supporters Clevertronics, Altro Flooring, Amber Smart Systems and CETEC were there. A special thanks to Thomas Longbottom, Anthony Carulli, Clive Berrel and Mark Collen for their ongoing expertise and support across all our events.

After the PD Day, we headed to Darling Harbour and boarded the Sydney Charter Boat Eclipse for a four-hour cruise - the perfect time of year to be on the harbour and catch up with both new and familiar faces. I'm already planning for our next November event.

Please reach out if you have any topics, questions or ideas you'd like us to explore. Our network continues to grow, and your input helps make our events more informative and progressive.

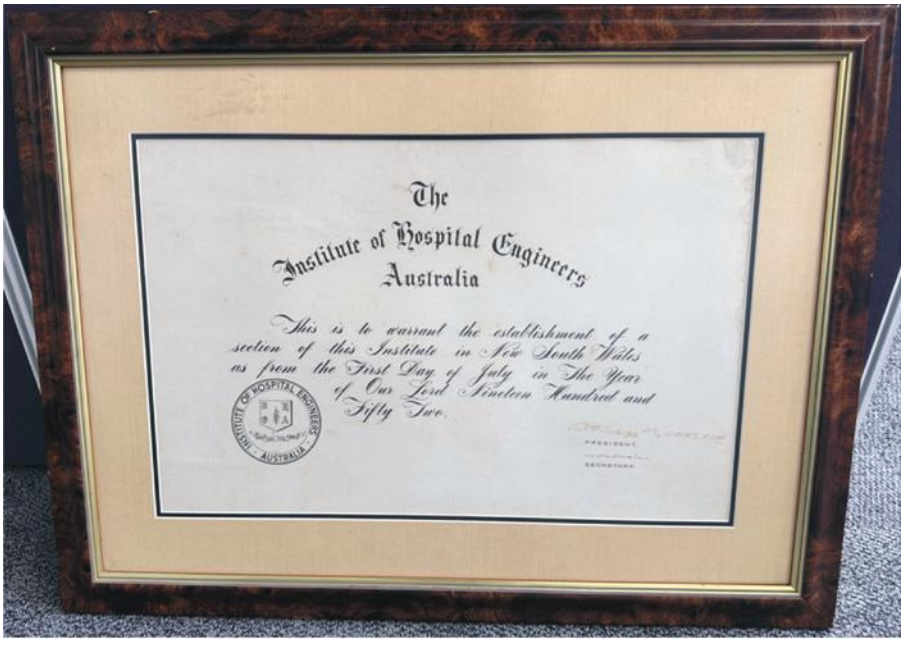
Finally, I was presented by Jon Gowdy, former NSW and National President of IHEA, with the official document dated 1 July 1952, recognising the formal beginning of the NSW Branch. It currently resides at ACIA Electrical Services and will be passed on to the next NSW President when the time comes. A big thank you to Jon for his guidance and support over the years - and I hope he enjoys a well-earned six months of long service leave.

With the upcoming IHEA National Conference, I hope to see many of you in March at Sea World.

Cameron Ivers
President – NSW/ACT Branch







THE POWER YOU NEED ANYWHERE, ANYTIME



CAPS

COMPLETE AIR & POWER SOLUTIONS

Find out more
CAPS.COM.AU

AIR COMPRESSORS | POWER GENERATORS | GAS GENERATION | BLOWERS | 24/7 SERVICE & SUPPORT | RENTAL

Queensland

A BELATED MERRY CHRISTMAS and Happy New Year!! I hope everyone had a relaxing and safe time with family and friends and are fully recharged for the new year without too many lingering symptoms from overindulging 😄. I had intended to indulge in watching the boxing day cricket match for several days but that unfortunately that was not to be – over in less than two days (a travesty)!

I was reminded during my holidays that not everyone will have had the luxury of an extended break. Seemingly harmless beach shenanigans resulted in us accompanying a younger family member to the emergency department. The young lad is fine, nothing too serious (stick in his foot), but we are very thankful for the caring and dedicated staff who worked through this season to keep our health services available.

The nature of managing complex health facilities is that we can be surprised by the nature of issues that crop up on top of those that we are always wrangling with. It keeps us on our toes and requires at times innovative and quick-thinking responses. We are always interested in hearing how challenges are being addressed by our members so that we can take the opportunity to share this with the wider community. Do you have a story for us or a colleague that you would like us to acknowledge for their dedication and experience in their work?

For our NSW colleagues and anyone who has been impacted, our thoughts are with you after the horrific events at Bondi.

2026 Queensland Program

The Queensland committee is endeavoring to release a program of activities for 2026 – although we are a bit distracted by the planning for the National Conference. We will keep you posted especially now that we are over the hump of organizing for the conference.

National Conference, SeaWorld 4-6 March 2026

I am looking forward to catching up with everyone at the 2026 National Conference at the Sea World Resort Conference Centre. Bring your togs, the family and take advantage of the facilities. There is deliberately a unique Queensland flavour to the event, and we have a great lineup of speakers and activities. The aim is to have some fun as well as the serous business of learning together along the way.

The theme for the conference is Managing Health Infrastructure Risk - Innovation, People, Process and Technology. All facets represent both opportunities and challenges – how healthcare is delivered and supported is always evolving. New ideas are often aimed at providing





Because every breath they take depends on absolute purity.

The **WSAS** is a single point connection medical breathing air system that delivers clean, compliant, reliable air to protect patients and reduce your downtime.

- ☑ **Oil-Free Medical-Grade Air** for total patient safety.
- ☑ **Smart Mk5 Touch Control** for instant monitoring and trending.
- ☑ **Compact Footprint Design** built for modern healthcare rooms.
- ☑ **Compliant** with AS2896.
- ☑ **High-Efficiency Filtration** for clean, reliable performance.
- ☑ **Ease of Installation =** one skid package.



Scan for more

BeaconMedaes Australia
0429 854 457
medicalgas.au@beaconmedaes.com
www.beaconmedaes.com/australia

BeaconMedaes





improved outcomes and efficiencies but are only possible with support of staff and supporting technology.

Special thanks again to Iceberg, Vanessa Gallina (IHEA Membership Services) and the IHEA subcommittee headed up by Linda Jordinson for all their efforts to make the event possible.

11 September and 13 November 2025 PDs and Christmas Dinner

Thanks to Schneider for hosting the joint PD with FMA on 11 September at their Brisbane office. I was disappointed that I could not attend as Schneider are wonderful hosts and their display and teaching facilities are up there with the best. The topic was "Flexibility and the Future of Work" and focused on using technology to connect the dots to intelligently monitor the maintenance and operations of large-scale building infrastructure. We were outnumbered by our FMA colleagues (13 out of 35) and we look forward to more joint activities with FMA in the future due to our similar interests.

We continued the tradition and held our final PD for 2025 at the Pineapple Hotel. A bit of a hiccup with the organization of the event but a big thank you to Cetec, Clevertronics and Honeywell for both sponsoring and presenting at the PD at relatively short notice. We had over 50 attendees at the PD who joined us for networking drinks and nibbles after the PD. Mark Collens (CETEC) soldiered on through connectivity issues to present on the need for water treatment to account for sensitive equipment in facilities, Nathan Hull (Clevertronics) presented on the use of dynamic exit lighting to improve fire safety, and the Honeywell team (Andrew Gerber, Ying Hao Au and Mark de Brito) presented on cyber security risks and Honeywell's integrated systems solutions for managing health infrastructure systems.







After the November PD, 33 guests and partners joined us at the Ship Inn for the yearly Christmas Dinner. Great food and great company.

Committee of Management (COM)

A big ongoing thank you to Queensland COM for sharing the load in organizing and planning all our events.

President	Danny Tincknell
Vice President	Linda Jordinson
Treasurer	Michael Ward
Secretary	Josiah Padgett
State National Board Representative	Nic Coffey
COM member	Christopher Aynsley-Hartwell
COM member	Mark Fasiolo
COM member	Mark Collen
COM member	Adrian Duff
COM member	Liam Duller
COM member	Michael Campbell

If you would like to communicate with the QLD Branch via email, please do so at ihea.qld@ihea.org.au. We greatly appreciate all feedback on our events and welcome any ideas for topics that you are especially interested in.

Again, looking forward to catching up with everyone at the National Conference.

Danny Tincknell
President, QLD Committee of Management



rinseassure™

Introducing Rinse Assure Rental

Hospital endoscopy final-rinse water quality can fluctuate with the smallest changes. Microbial load, mineral content and other factors can be affected by temperature, seasonal rainfall, source water, age of pipework, renovations - the list goes on. When a solution is required and budgets are tight, Tristel now offers Rinse Assure Rental to support your departments' short-, medium- or long-term water quality challenges, featuring:

- **NO** lock in contracts
- **NO** obligation to purchase
- **RAPID** remediation of water quality issues



- Dosed water delivered directly to Endoscope Washer Disinfector
- Touch screen user interface and data display
- Compliance with AS5369:2023
- Reverse Osmosis (RO) system
- Bacteria-free water
- Doses water with low level ClO_2 chemistry

Tristel™

Australia: Tristel Pty Limited
T 1300 680 898 **E** mail-au@tristel.com
W www.tristel.com/au-en/
New Zealand: Tristel New Zealand Limited
T +64 (0) 7 5771560 **E** mail-nz@tristel.com
W www.tristel.com/nz-en/

Request more information from our water quality experts

Copyright © Tristel Solutions Limited - MKT-Adv-3386 - 16/DEC/2025 - V1

Victoria/Tasmania

AS WE APPROACH the festive season, I want to extend my heartfelt thanks to our committee of management team for their continued dedication, professionalism, and support throughout the year. Their commitment to excellence not only strengthens our branch but also reinforces the important role we all play within the healthcare engineering.

This year has been one of collaboration, growth, and meaningful progress. Each of you has contributed to the success of our branch, and for that, we are truly grateful.

On behalf of the Committee of Management, may this Christmas bring you joy, peace, and well-deserved rest. I hope the holiday season offers you time to reflect, reconnect with loved ones, and recharge for the year ahead. We look forward to building on our achievements together in the coming year.



Branch Activities

Lunch & Learn: Reducing unwanted Fire Alarms and Risk in Healthcare Assets
Date: Wednesday, 22 October 2025
Time: 12:30 PM to 1:30 PM
Location: Zoom

Each year, more than 100,000 automatic fire alarm activations occur across commercial properties in Australia, and over 97% of these are unwanted false alarms. These unnecessary activations create significant operational challenges, impose substantial costs on property owners, and cause disruptive interruptions for tenants, patients, and staff.

In New South Wales alone, the annual economic impact of false alarms is estimated at between $246 million and $349 million. With false alarm charges continuing to rise across multiple jurisdictions, many building owners are finding it





Adiabatics
Australia



Footscray Hospital 2023

ADIABATICS AUSTRALIA

GLOBAL LEADERS IN ADIABATIC TECHNOLOGY

As a result of the potential health risks posed by traditional Cooling Towers, coupled with energy and climate uncertainty, there has never been a technology so suited to today's challenging environment.

Grant Hall 0407 321 928 **Steven Amsing** 0437 441 866

Adiabatics Australia Factory 15/9-11 Mirra Court Bundoora, VIC 3083

www.adiabaticsaustralia.com.au

BECENTIA
CONSULTING ENGINEERS

Bridging the gap between Consulting and Construction

Harnessing the power of innovation and precision, our team delivers electrical engineering solutions across a wide range of specialised fields. From complex system design to advanced dry fire technologies, we combine technical excellence with practical, reliable outcomes — ensuring every solution is engineered for performance and efficiency.

Whether it's at the project outset or the completion of design, you can count on Becentia Consulting Engineers to be your solution specialist.

At Becentia, we don't just stop at issuing drawings, we see projects through to the very last detail. We're as invested in how things are built as we are in how they're designed. We focus on practical delivery, not just minimum compliance and stay engaged to support the installation process to ensure what's on the drawings is installed with clarity and is fit for purpose. We're here to make construction smoother, smarter, and simpler for you. Because for us, a project isn't finished until it's built right.

We specialise in delivering bespoke solutions for complex engineering challenges. With deep industry insight and hands-on experience at the forefront of electrical engineering, our team is committed to providing innovative, compliant, and cost-effective outcomes tailored to your unique needs.

From initial design concepts to detailed dilapidation studies, we work closely with our clients to ensure every solution is practical, precise, and exceeds expectations.

Visit us at becentia.com.au







increasingly difficult to respond often without clear records, root-cause analysis, or accurate activation timelines.

What we learnt:

- The main categories and causes of unwanted fire alarms
- The operational and financial consequences for property teams
- Practical strategies to mitigate false alarms and prevent repeat incidents
- Proven methods to recover costs and manage chargeable false alarms

We also explored how better processes, smarter data, and the right technology can help teams reduce risk, improve compliance, and cut unnecessary costs.

This session is available on IHEA Website under the members section – Resources Learning + Professional Development | IHEA

Site tour at Austin Hospital

Date: Friday, 21 November 2025
Time: 9:00 AM to 12:00 PM
Location: 145 Studley Rd, Heidelberg, Tower Building, Level 1 Main Reception
Theme: Lessons Learnt with the Implementation of New Technologies



It was a pleasure to hear from the Austin Hospital team about their current challenges and how their partnership with Ventia will support the management of these issues. Supplier presentations were both insightful and engaging, tying in seamlessly with the site tour. Attendees made the most of the networking opportunities, and we extend our thanks to the Austin Hospital suppliers for providing lunch, and to Ventia, particularly Pablo for facilitating the event.

This event offered a unique opportunity to see first-hand how cutting-edge technologies are being implemented in a busy healthcare environment, and to learn directly from real-world operational experience.

Over the past few years, Austin Hospital has integrated a range of innovative systems to improve operational efficiency and reliability. During the tour, attendees explored lessons learned since the implementation of these technologies, including:

- IoT Sensors: Deployed since 2020 to track average vibration speed over time and instantaneous acceleration across vibration frequencies, enabling early detection of equipment wear and improved maintenance planning.
- Busch Vacuum Solutions' Otto System: Featuring IoT-enabled vacuum pumps that provide real-time performance monitoring and predictive maintenance capabilities.



- Beacon Medaes Medical Air Compressor: Equipped with advanced filtering and drying skids to deliver consistent, clean medical air—critical for safe hospital operations.
- Smardt Air-Cooled Chiller: A new, energy-efficient cooling solution with intelligent monitoring to enhance system reliability.

Suppliers of each technology were on-site to deliver demonstrations and answer questions, offering valuable insights into the design, implementation, and operational considerations of their systems.

Overall, the tour provided an engaging, hands-on experience that highlighted effective technology integration and operational best practices. It offered a rare opportunity to see innovative systems in action and to learn directly from the experts driving their success.

Victorian + Tasmanian End of Year Celebration

Date: Wednesday, 3 December 2025
Time: 4:00 PM – 6:00 PM
Location: Bourke Street Green - RACV Club. 501 Bourke Street Melbourne CBD.

Forty members and suppliers attended the event on a balmy Melbourne evening, making for a highly successful afternoon and a fitting way to close out 2025. The Committee of Management received valuable feedback to help shape the 2026 agenda, shared plenty of laughs, and raised a toast to the year ahead.

Committee meetings are held monthly on the 2nd Wednesday at 9:30 am via Teams. Branch members are welcome to attend—email the CoM for an invite.

Michael McCambridge
Vic/Tas Branch President





Active Power Factor Correction is a game-changer for hospitals to enhance energy efficiency and power quality.

Correcting the phase difference between current and voltage reduces power distortion, which can interfere with critical hospital equipment such as UPS systems. ebm-papst APFC solutions lead to more efficient power consumption, improved electical reliability, reduced waste, and lower overall energy costs.

Want to learn more? Contact us on: (03) 9360 6400 or auenquiries@au.ebmpapst.com

ebmpapst

engineering a better life

EcoXpert eMobility Master Certified by Schneider Electric

EV CHARGING SYSTEMS ®

WALGA Preferred Supplier

Commercial - Fleet - Health Care

- Sales, service and installation
- Leading AC and DC charging equipment
- Site assessments and feasibility studies
- Load management solutions
- Preventive maintenance and repairs
- EV charging rentals (AC and DC)
- Third-party commissioning



GO CHARGE

Schneider Electric

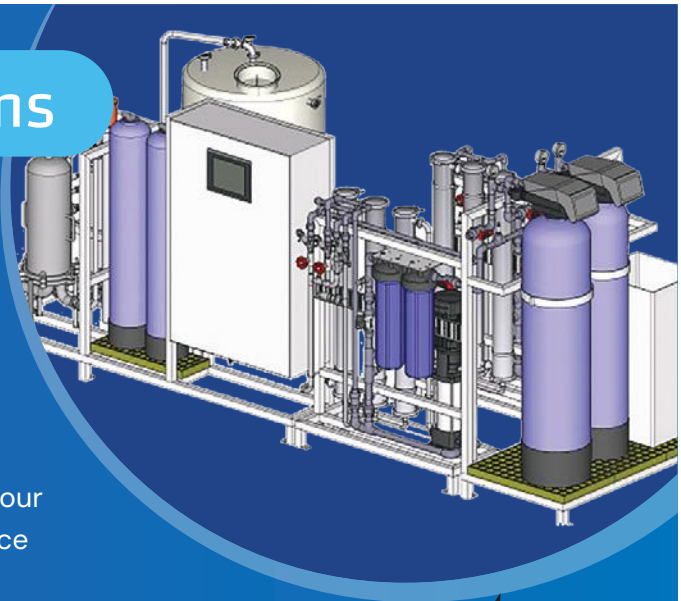
www. evchargingsystems.au
1300 49 49 87| sales@evchargingsystems.au

GRS GRS GRS GRS

Western Water Solutions

Your Trusted Partner in AS5369 Compliant Water Treatment Packages!

We specialize in the **design**, **fabrication**, **installation**, and **maintenance** of high-quality, compliant **AS5369 water treatment packages**. Our expert team ensures reliable and efficient solutions tailored to meet your specific needs, guaranteeing top-tier performance and compliance with industry standards.



Custom Solutions **Reliable Systems** **Expert Maintenance**

Western Water Solutions

Choose Western Water Solutions for a seamless water treatment experience, from concept to ongoing support. **Contact us** today to learn how we can help optimise your water treatment processes.

1300 661 005
westernwatersolutions.com.au
info@westernwatersolutions.com.au

Western Australia

I AM WRITING THIS on the last day of 2025, an appropriate time to reflect on the past year. In my opinion and despite the issues currently plaquing our world, 2025 for our members has been a bumper year of interesting and educational sessions. To deliver such first-class events is no easy feat and on behalf of all of our members, I want to sincerely thank those who sat on the 2025 Committee of Management and branch Executive for your hard work, dedication, commitment and passion. Without your contribution, things just would not have happened.

I want to single out Jana Simpson (our immediate past president) for special mention. Jana's leadership of the chapter throughout her tenure was exemplary. Her dedication, commitment, expertise and passion redirected our committee and thus our chapter into a new direction. From all of the IHEA WA membership we offer our sincere appreciation and thanks to Jana.

Before I drift away into a sea of nostalgia let me inform you of what we got up to during the spring.

Firstly, we met at Stantec's CBD Offices where our state secretary Zachary Browne delivered an overview on the complexity of lighting design in health care. Unfortunately, I was not able to attend this meeting and from the feedback I have received I missed an informative, well delivered and entertaining session. I asked Zachary for a synopsis of his presentation and due to the limited space have edited his response. I apologise to Zachary if I have failed to accurately convey the intent.

The delegates, consisting of members, industry suppliers and vendors, listened to a wide variety of topics covering night lighting, lighting controls, PoE lighting, circadian rhythms, mental health / anti ligature design, green star requirements and wireless emergency lighting.

The dynamic mix of attendees created engaging open conversations about how to overcome various challenges. Some of the challenges discussed, how to balance the need for safe movement, providing lighting for clinical care while limiting the light pollution for patients. The discussion moved across the complexities of lighting control, the necessity of providing fixtures suitable for mental health facilities, the requirement for emergency evacuation and the challenges of introducing new technologies like PoE lighting and new theories such as circadian rhythms

These interactions were especially valuable as many of the non-member attendees, who do not normally attend such events had the opportunity to engage with our members. Both had the opportunity to listen to the uniqueness of each side. The whole event was an outstanding success. Our thanks to Zachary and the Stantec team for hosting a great event.



Jana's last official task as chapter President.





Stantec Presentation

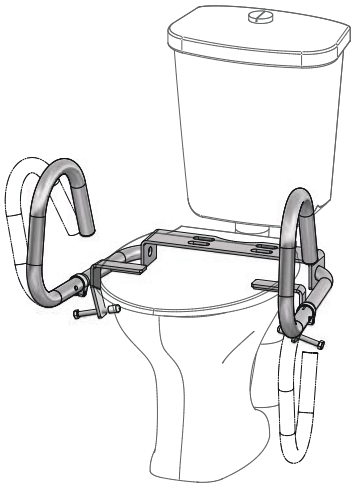
THRONE™ ACCESSORIES PTY LTD

Contact: www.throne.com.au or 02 6280 6851

DIGNITY, INDEPENDENCE AND CONFIDENCE FOR EVERYONE

3-in-1 Rail

- Standard
- Splayed
- Fold-Down









The functions of the 'Standard', 'Splayed' and 'Fold Down' rails have been incorporated into the **'3-in-1'**, making it the most convenient toilet support system on the market.

The benefits of the **Throne Accessories '3-in-1'** Rail System include:

- This rail replaces the previous three models
- Simplified ordering... etc

The new **Throne Accessories '3-in-1'** Rail System will be of great advantage for:

- Equipment loan departments in hospitals, schools, respite care and hospice facilities
- Nursing homes and retirement villages
- Hotels, motels, hostels, residential and other accommodation outlets



CHILDREN'S RAIL AND STEP

The children's rails assist them with their safety and independence. The step attaches to the rail and in many cases the child is able to get off the toilet without any assistance. The step can fold up against the bowl when other people wish to use the toilet. Throne Accessories also produce a range of smaller rails to fit infant toilets used in pre-schools and kindergartens. The step is suitable for any of the Throne Support Rails.

THRONE SPACER

THE ULTIMATE AND MOST VERSATILE TOILET SEAT RAISER

The Throne Spacer has been developed to add height without changing the appearance of a standard toilet and toilet seat, and offers comfort and safety.

Two sizes! 50mm & 80mm heights

The best option OT's could hope for!



- Use with or without Throne Rails
- The Throne Spacer fits under the toilet seat
- Unobtrusively integrates with the bathroom decor
- Raises the height of toilet seats and electronic bidets
- Easily installed and conveniently transportable
- Spacers and rails are available from reputable healthcare suppliers

BARIATRIC TOILET SUPPORT RAIL

This particular Bariatric Rail model meets the needs of the larger built person. The handgrips are supported by adjustable legs that are firmly positioned to the side of the toilet by rubber-capped feet to prevent tripping. The Bariatric model comes in polished stainless steel.







Stantec Networking







Plexus and the future of Refrigerants

The first time we met with Plexus it was at the North Perth Bowling Centre because they did not have an office. There they gave a detailed, insightful and truly educational session on electrification. In October we again ventured to Plexus, however this time it was at their new offices on the outskirts of the CBD. I found their office to be brilliant; there was even a unicycle. We were there to hear another insightful session on the future of refrigerants. We were not disappointed.

Mr Nick Randell opened with a detailed history of refrigerants and their potential environmental effects. Refrigeration is one of the more important inventions of the modern world and whilst traditionally one of the most reliable systems it can pose a significant risk to our environment. To maintain a safe and workable system refrigeration like electricity is subject to strict operational controls however accidental discharges can and do happen. Constant research into improving efficiencies has led to complex and dangerous refrigerants being developed. Nick highlighted this and that research is being conducted into returning to more natural refrigerants such as propane. This too would have its own serious application and safety implications. He went on to describe what the future may look like and this opened the floor to some very interesting and thought-provoking discussions. I can highly recommend attending any Plexus professional sessions as they always evoke robust and challenging discussion. Our thanks to Nick and the Plexus team for hosting another brilliant event.

In the weeks leading up to Christmas the "entertainment" venues in the Perth CBD become very congested with people winding up their busy years. This year we decided to wind up our year with our annual sundowner in November. We chose the five-star facility at the RAFFA retirement resort in Leeming. The evening was deliberately low-key focussing on reconnecting with old acquaintances and renewing friendships. The weather was brilliant, transforming into a superb evening. Many of our guests congregated on the veranda to take in the ambiance. The food as always was delicious and with just enough left over to satisfy those left at home. In our house the take home tray did not make it to the fridge.







The Sundowner Guests

Our president Mr Bredan McFaull delivered a speech capping the events of the past year and a brief synopsis of the coming 2026. We usually hold our annual award ceremony at the sundowner, however due to the short leadup time we decided to move the awards to our annual state conference.

With that accomplished, I now turn to the year past. Over 2025, our members have enjoyed the experience and hospitality of our supporters such as and in no order, Norman Disney Young, Plexus, BOC Gases, HFM, RAFFA Retirement Village and HI Lighting. I apologise if I have missed anyone. On behalf of our Committee of Management, Branch Executive and members we offer our sincere thanks and greatly appreciate your contribution to the IHEA, we look forward to interacting with you all in 2026.

As for 2026, well we have a few new and exciting options to consider, like introducing bilateral relationships



The Iconic Spitfire



The RAAFA Crest

with our Clinical Care, Infection Control, Biomedical and Aged Care colleagues with the view to forming a working understanding of the complexities that each discipline faces. We are looking at forming cooperative understanding with the governing bodies of our allied healthcare industries to facilitate a transfer of appropriate information. We are looking to develop new educational opportunities especially with regulatory obligations. We intend on hosting an enhanced state conference in the second half of the year so keep an eye out. If you have something to contribute in the form of a presentation does not wait until we call for abstracts, simply drop a line to ihea.members@ihea.org.au.

Our Queensland colleagues are hosting this year's National Conference on March 4–6 at the Sea World Resort. It is going to be huge. Give some serious thought to attending, if this one is anything like those that have gone before, you will not be disappointed and will come away enlightened and entertained.

With respect and kindness
Frederick Foley

ENWARE
A WATTS Brand

Wellbeing® Clinical Type B Basin with Anti-Splash Blade

Designed for Superior Infection Control, Compliance and Clinical Care.

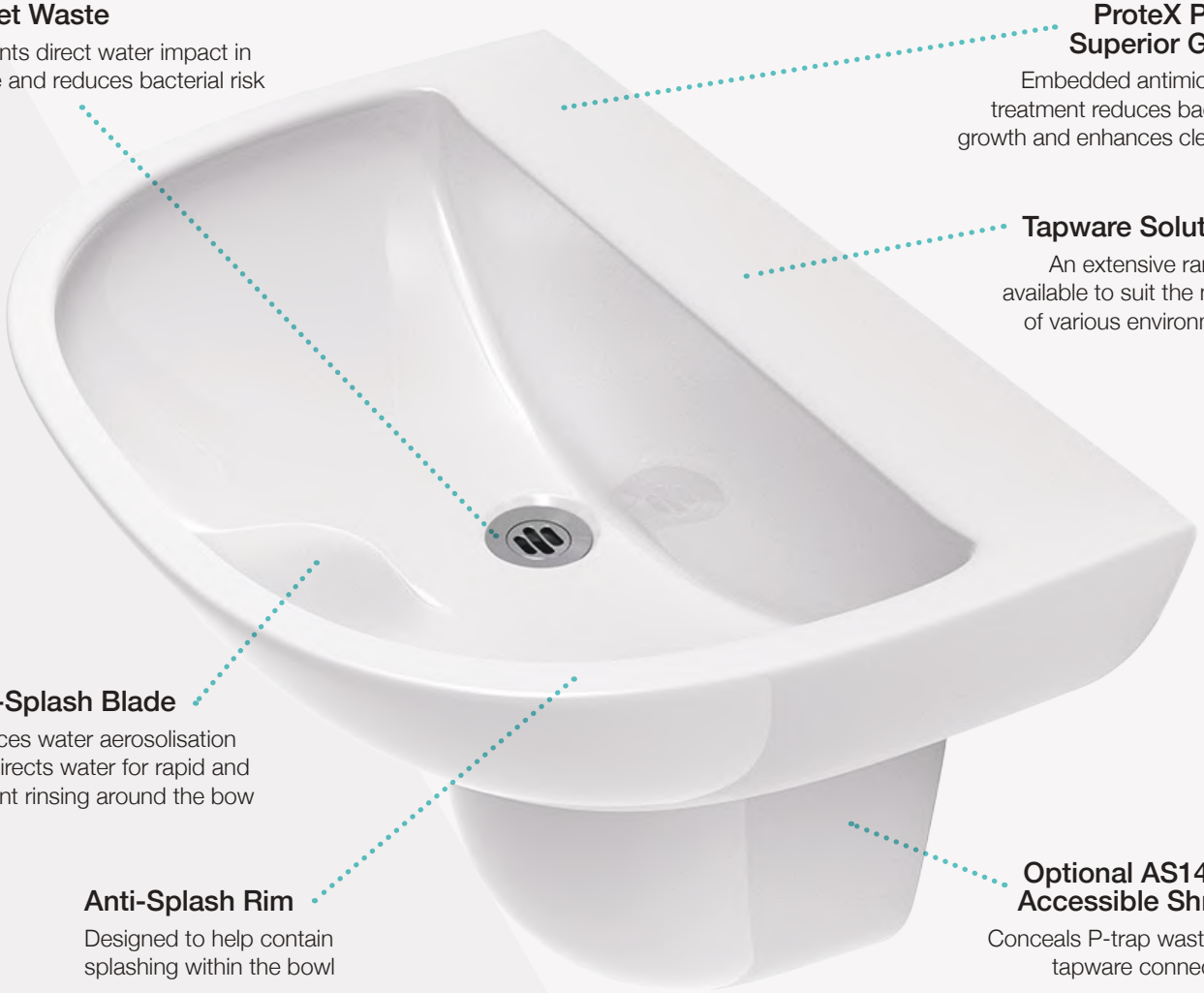
The cutting-edge design makes it Australia's most compliant basin, meeting the Australasian Health Facility Guidelines (AusHFG) for Type B clinical basins.

The next generation of clinical basin design – purpose-built for the future of healthcare.

Offset Waste
Prevents direct water impact in waste and reduces bacterial risk

ProteX Plus™ Superior Glaze
Embedded antimicrobial treatment reduces bacterial growth and enhances cleaning

Tapware Solutions
An extensive range is available to suit the needs of various environments



Anti-Splash Blade
Reduces water aerosolisation and directs water for rapid and efficient rinsing around the bow

Anti-Splash Rim
Designed to help contain splashing within the bowl

Optional AS1428.1 Accessible Shroud
Conceals P-trap waste and tapware connections

Order Codes:
WB-BSNTYPB-E00 – No Taphole No Overflow, WB-BSNTYB-E10 – 1 x Taphole No Overflow, WB-SHRD-E600 – Optional Shroud

Contact Enware Today for Sustainable Healthcare Solutions

1300 369 273 | info@enware.com.au

enware.com.au

CONNECTED LIFE SAFETY & SECURITY



PROTECTING LIVES, ASSETS AND INFRASTRUCTURE

Hospital facilities face complex safety challenges, from infection control and workplace incidents to cybersecurity risks and communication breakdowns. Left unaddressed, these issues can potentially disrupt operations, endanger staff and compromise patient outcomes.

To meet these evolving threats head-on, healthcare facilities are increasingly adopting comprehensive, connected and technology-driven safety strategies. By integrating fire, security and building system technologies, hospitals gain real-time visibility for faster responses and stronger protection that have the ability to minimise risk, safeguard critical assets and help ensure safe, continuous patient care.

CLOSING THE GAPS IN HOSPITAL FACILITY

Hospitals operate in high-stakes, high-pressure environments where maintaining the highest level of safety is essential. From patient well-being to staff protection and asset security, healthcare facilities face evolving threats that demand proactive, coordinated safety measures.

CHALLENGE		SOLUTION
Airborne illnesses and infection control	Exposure to airborne pathogens from poor ventilation and inconsistent temperature and pressure control contribute to hospital acquired infections.	Infection control solutions have the ability to help by monitoring air quality and pressurisation to meet airflow requirements to support infection prevention protocols for operating rooms, patient care facilities, isolation rooms and pandemic response environments.
Workplace violence and physical threats	Healthcare staff may encounter threats from aggressive visitors, patients in crisis or encounter dangerous materials.	Life safety and security solutions such as access control, alarms, panic alerts and surveillance, provide real-time visibility and quick response to safeguard people and facilities.
Cybersecurity and OT vulnerabilities	Connected hospital systems are vulnerable to cyberattacks that can disrupt care and compromise safety.	OT cybersecurity solutions and services can help secure systems and support continuity by identifying vulnerabilities and responding to digital threats.
Asset data protection and access control	Unauthorised access to patient data or restricted areas poses serious safety, legal and ethical risks.	Advanced access technologies support privacy protection, maintain strict control over medical and digital assets, and help ensure that only authorised personnel can access sensitive zones.
Multisite and campus-wide coordination	Disconnected systems hinder collaboration and delay emergency response across internal and external departments and facilities.	Interoperable platforms provide real-time visibility across sites to streamline communication and enhance emergency coordination.

CONCLUSION

Honeywell delivers integrated, cost-effective life safety and security solutions that aim to simplify the protection of patients, staff, visitors and physical and digital infrastructures. Our advanced systems are designed to address the unique challenges faced by healthcare facilities, from managing complex infrastructures to supporting emergency response readiness and complying with strict regulations.

For more information
https://buildings.honeywell.com/au/en/industries/healthcare

Honeywell Building Automation
2 Richardson Place, North Ryde
NSW 2113

© 2026 Honeywell International Inc.

THE FUTURE IS WHAT WE MAKE IT

Honeywell

ENHANCE HOSPITAL SAFETY

PROTECTION, PREVENTION, AND RESILIENCE



Healthcare safety starts with smarter systems. Protect patients, staff and assets with Honeywell's connected buildings, safety, security and access management solutions.

By striving to help hospitals stay secure, compliant and resilient, we empower healthcare professionals to focus on what matters most: saving lives. Promote uninterrupted patient care and a safer workplace with Honeywell.

Smarter safety starts here

THE FUTURE IS WHAT WE MAKE IT | **Honeywell**

A Brief Conversation with Alex Rodger

Systems within a facility are required to operate efficiently and effectively and for that to occur they need to be designed by people who know what they are doing. This is especially important for healthcare facilities. There are many good Engineering Consultants and specialised System Engineers in Western Australia, but only a few that really stand out. Just prior to Christmas, I had the privilege to meet with such a person, his name is Alex Rodger.



Alex Rodger

ALEX IS WELL known within the Western Australian Healthcare Facility Management fraternity having until recently held various senior consultancy positions with NDY, including Chief Engineer, Group Healthcare Director and Mechanical Technical Director, for many years. Alex is an avid supporter of the WA IHEA and a passionate advocate for sustainability, innovation, safety and education, but who is Alex Rodger?

Alex was born and raised in working class Glasgow and is an admirer of the engineering marvels of Brunel and Leonardo Da Vinci. Speaking with Alex, he gives the impression that engineering was always his destiny; however, graduating from school, Alex initially wanted to become an architect. Circumstances then redirected his attention towards heating and ventilation engineering. Alex began his engineering career at the award-winning design consultant firm DSSR in Glasgow in 1986-87.

As part of his professional development, Alex graced the campuses of three universities, with the most important being Bologna University in Italy, for that is where he met his future wife and married in 1996.

During our conversations about work life balance and the impact that engineering consultancy can have, I got the clear impression that Alex is a dedicated family man and was a not too shabby soccer player. Strangely enough, I could easily have pictured Alex in the front row of his school rugby team but then Alex is full of surprises (a decent soccer player trapped in the body of a rugby player as he says!!!). The surprises don't stop there - he plays left-handed golf with a right-hand grip, go and figure that one out! Alex told me that Italian is the language of choice within the Rodger's household. I have always understood Italian to be a passionate language, I must admit I am curious to hear how Italian would sound with a Glaswegian accent. Talk about being cosmopolitan: A Glaswegian speaking Italian in Australia, simply brilliant!

The Rodger family relocated to Western Australia in October 2011 when Alex was recruited by NDY to take up the Health Lead Role and the Lead Services Designer for then new Perth Children's Hospital. Alex joined the IHEA in 2012 and today sits on the West Australian Committee of Management. There is no doubt that Alex's passion for engineering is responsible for him being the author of many engineering white papers and presenting at numerous conferences and professional development sessions.

He recently sat on the WA Health Department's Licensing and Regulatory Unit's (LARU) review committee for the Western Australian Health Facility Engineering Guidelines and won the IHEA WA Chapter Engineer/Facilities Manager of the year in 2022 for the advice and expertise that he brought to health facilities in WA in terms of the pandemic response measures and minimising airborne infection in the built environment.

When asked, "Why Engineering?" Alex opened his response with an explanation of the origin[1] of engineering. He went on to say that he has always had an inquisitive nature and enjoyed problem solving utilising science and innovation. Engineering just satisfied this equation. And

1 The word "engineer" comes from Latin roots *ingenium* (cleverness, invention) and *ingeniare* (to contrive, devise)

then "Why Healthcare Engineering?" Alex replied that whilst all engineering follows the same laws of physics, healthcare engineering has one facet that is unique and that is ensuring the delivery of clinical services to ensure the safety, health and wellbeing of the patient, staff, and building occupants alike.

As to the future Alex, he is at a career crossroads, but has already demonstrated a passion for healthcare, sustainability and education and that will continue well into the future. He hopes to continue to develop mentorship programs for new engineering graduates. He will continue to author and deliver educational and insightful presentations covering subjects such as healthcare design and infection control, climate change adaptation, the electrification of hospitals and minimising the redevelopment carbon footprint.

It was a real joy talking about health engineering with Alex and we agreed that healthcare facilities are not just buildings, they are ever evolving entities, home to the raw emotions of life peppered with science and innovative thought. Healthcare engineering is not a job; it is a vocation.

Alex is an engineer worth getting to know and I encourage you to strike up a conversation with him, the next time an opportunity presents itself, you will not be disappointed.

How often is the cool room door left open?

And how much has that cost you?

Power bills?

Spoiled produce?

Unnecessary Cool room checks?



T-TEC Wireless data logger with a temperature sensor going into the cool room and a door switch sensor can give alarms that can be seen or heard locally and remotely via a phone app. The effect and duration is clearly seen on the graph and statistics.
Contact us for a quote for the TempReport System.

Temperature Technology
105 Anzac Highway, Ashford SA 5035
Tel: 08-8297 7077 Email: sales@t-tec.com.au



CENTIGRADE COMMISSIONING

- Test and Balance of Air and Hydronic Systems
- System/Building Performance Review and Validation
- Building Leakage Testing
- Temperature and Flow Trending
- Operating Suite Compliance Testing
- Cleanroom Performance Testing
- Safety Cabinet Compliance

NATA

CENTIGRADE MEDICAL GASES

- Laboratory and Medial Gases
- Gas Manifolds
- Tool Air
- Gas Alarm Monitoring
- Medical Compressed Air
- Medical Suction Plant
- Gas Termination Points

SCAN ME

7 Macadam Place, Balcatta WA 6021
T +61 8 9240 1992 **E** info@centigrade.com.au **www.centigrade.com.au**


Be sure. testo
If plants need air, imagine what you need..
Ask us about environmental monitoring.
Give one of our friendly team members a call today (03) 4108 9902
FInd out more

Clean Air in Healthcare Facilities: A Mission, Not an Option

Clean air isn't an abstract ideal—especially in healthcare. For facility managers in hospitals, clinics and allied health environments, indoor air quality (IAQ) directly affects patient outcomes, staff wellbeing and infection control. From critical care units to waiting rooms, every space requires carefully managed airflow, humidity and ventilation to ensure both comfort and safety.

In healthcare settings, inadequate air quality can contribute to the spread of airborne pathogens, compromise recovery for patients with respiratory vulnerabilities and increase staff absenteeism due to illness. Proper air management isn't simply about comfort—it's about infection control, regulatory compliance and operational resilience.

Healthcare ventilation systems—comprising HVAC units, filters, ducting and pressure controls—play the central role in removing contaminants, supplying fresh air and maintaining environmental conditions that support both clinical and non-clinical functions. According to established infection control principles from the CDC, well-maintained HVAC systems help control temperature, regulate humidity, remove stale air and prevent the spread of airborne infections.

But commissioning systems is only half the equation. The other half—arguably the more critical—is ongoing measurement, verification and maintenance to ensure those systems continue to perform as designed. This is where measurement technology becomes indispensable.

The Role of Measurement in Air Quality Assurance

Clean air cannot be assumed; it must be demonstrated. Facility managers need reliable data—on airflow, pressure, humidity, temperature and contaminants—so they can confidently assess performance, identify issues, optimise efficiency and document compliance. Regular measurement supports proactive maintenance strategies, avoids costly reactive fixes and helps facilities meet both internal quality targets and external regulatory requirements.

Recognising this, Testo's facility management solutions are engineered to help FM professionals measure, monitor and document indoor air quality and building system performance with precision. From portable instruments to comprehensive data systems, Testo supports every stage of building performance management.

Precision Tools for a Healthy Indoor Environment

Testo's range of instruments enables facility teams to tackle a wide range of tasks related to healthcare air quality and HVAC system maintenance:

- Indoor Air Quality Measurement: The Testo 400 universal IAQ instrument allows detailed measurement and documentation of key parameters—including CO_2 concentration, humidity, temperature and air velocity—helping facilities validate indoor conditions against comfort and health standards.
- Climate and Air Flow Analysis: Multifunction instruments like the Testo 445 provide simultaneous measurement of air velocity, volume flow, temperature and humidity—data essential for balancing ventilation systems and ensuring targeted air changes are achieved throughout facilities.
- Pressure and Ventilation Diagnostics: Maintaining correct positive and negative pressure relationships in areas such as isolation wards and operating rooms is vital for infection control and air movement. Testo's instruments deliver accurate pressure readings that help verify that air barriers perform as intended.



These tools not only support troubleshooting and optimisation, but also deliver traceable, documented results that help facility managers demonstrate compliance with internal protocols and external standards.

Leading with Data for Operational Confidence

Facility managers who embrace measurement and monitoring are better positioned to anticipate problems, optimise system performance and prioritise maintenance activities before issues escalate. Data-driven approaches reduce downtime, support energy-efficient operations and enhance occupant comfort—while ensuring indoor air quality remains aligned with contemporary expectations in healthcare design and operation.

Moreover, accurate, repeatable measurement builds organisational confidence. Whether preparing for accreditation assessments, responding to patient concerns or planning infrastructure upgrades, detailed performance data helps facility leaders make informed decisions rooted in empirical evidence.

Air Quality and the Future of Healthcare Facilities

As healthcare continues to evolve, so too does the science of indoor environmental quality. The demand for more precise, continuous monitoring will grow, and facility managers will increasingly rely on advanced measurement technologies to stay ahead of risks and deliver healthier indoor environments.

Clean air isn't just a building service—it is a core component of quality healthcare delivery. With instruments like those from Testo, facility managers have the tools they need to not only measure what matters but also to act with clarity, confidence and purpose in maintaining the health of the buildings—and the people—under their care.

https://www.testo.com/en-AU/downloads/facility-management-technical

IHEA NATIONAL CONFERENCE 2026

IHEA
Institute of Healthcare Engineering, Australia

The National Event for Healthcare Facility Management and Design Professionals

4-6 MARCH 2026
Sea World Resort Conference Centre



Join us at the 2026 IHEA National Conference Hosted by the IHEA Queensland Branch
4-6 March 2026 | Sea World Resort Conference Centre.

Gold Sponsors

LEADING EDGE AUTOMATION
ALERTON
Schneider Electric

Silver Sponsors

Honeywell
altro

Why Attend?

The IHEA National Conference offers a platform to explore cutting-edge technologies, best practices and the latest trends while focusing on managing health infrastructure risk - innovation, people, process and technology.

Through insightful sessions, interactive discussions and valuable networking opportunities, you'll leave the conference feeling inspired and ready to implement new ideas that can make a real difference in hospital engineering.

Registration Details:

Regular Registration:	$1,200

Register now via **www.iheaconference.com.au**

Conference Program

The 2026 National Conference explores the theme:
Managing Health Infrastructure Risk - Innovation, People, Process and Technology

The full conference program can be accessed via the QR code

This program is an outline only and the organisers reserve the right to change the topics, times and presenters if necessary. For the most up-to-date version of the program, view the conference website www.iheaconference.com.au

Tuesday, March 3, 2026	
6:00 pm - 8:00 pm	Pre-Conference Delegate Drinks
Wednesday, March 4, 2026	
2:00 pm - 5:00 pm	**Technical Tours**
	Technical Tour 1 - Sea World
	Technical Tour 2 - John Flynn Private Hospital
	Technical Tour 3 - Gold Coast University Hospital
	Technical Tour 4 - Wet'N'Wild
5:00 pm - 7:30 pm	Registration Desk Open - Day One
5:30 pm - 7:30 pm	Welcome Reception Location: Exhibition Hall Dress Code: Smart Casual *Proudly sponsored by Programmed Property Services*
Thursday, March 5, 2026	
7:00 am - 5:25 pm	Registration Desk Open - Day Two
7:45 am - 8:50 am	Shark Bay Tour in Sea World
SESSION ONE	All conference sessions will be held in the Sea World Resort Conference Centre
9:15 am - 9:25 am	Welcome To Country
9:25 am - 9:35 am	Official Conference Opening & Housekeeping
9:35 am - 9:45 am	**Official Conference Address Health Department Minister or Representative**
9:45 am - 9:55 am	**Official Conference Address Health Building Authority**
9:55 am - 10:05 am	**IHEA National President Address** Michael Scerri IHEA National President
10:05 am - 10:15 am	**Gold Sponsor Address** Leading Edge Automation/ Alerton Australia
10:15 am - 11:15 am	**Keynote Address - Day Two** **Steven Bradbury** Proudly sponsored by BeaconMedaes
11:15 am - 11:45 am	Morning Tea & Exhibition - Day Two
SESSION TWO	Water Quality - Safety and Equipment Life
11:45 am - 12:05 pm	Case Study: Australian-First Application of Stabilised Hydrogen Peroxide to Safely Eradicate Legionella From a Hospital Problematic Warm Water System **Andrew Cook** Ecosafe International
12:05 pm - 12:25 pm	Water Quality Risks – Proactively Identifying and Mitigating Risks at the Construction Planning Stage for New Build and Renovations **Sarah Bailey** QED Environmental Services
12:25 pm - 12:45 pm	Reduction of Corrosion Risk in Copper Pipe Systems in Healthcare Facilities (Part 2) **Mark Collen** Cetec
12:45 pm - 2:15 pm	IHEA Annual General Meeting
	Lunch & Exhibition - Day Two Extended lunch break due to AGM
SESSION THREE	
2:15 pm - 2:35 pm	Engineering Perspectives For Safe Air in Hospitals **Adrian Duff** Metro North Hospital and Health Service
2:35 pm - 2:55 pm	Equivalent Clean Air and Energy – the Regional Victorian Experience **Ben Gill** Plasma Shield Ltd **Mark Hooper** Echuca Regional Health
2:55 pm - 3:15 pm	"Working Live" – Lessons Learned from a Chiller Plant Changeover in a Live Hospital **John Bourne** A.G. Coombs
3:15 pm - 3:35 pm	NZIHE Presentation
3:35 pm - 4:05 pm	Afternoon Tea & Exhibition - Day Two Group photo of IHEA delegates
SESSION FOUR	Sustainability Projects, Monitoring and Designing Out Risks
4:05 pm - 4:25 pm	Building a Sustainability Culture in Health Facilities **Dr Ramsey Awad** NSW Public Works **Elissa Klinkenberg** NSW Public Works

4:25 pm - 4:45 pm	QLD Children's Hospital Innovation in Asset Management **Aaron Liu** Children's Health Queensland
4:45 pm - 5:05 pm	Managing Health Infrastructure Risk – Innovation, People, Process and Technology **Andrew Gay** Sterilizer Validation Australia (SVA)
5:05 pm - 5:25 pm	Minimise Risk and Enable Proactive, Data Driven Operations Through Modern EIMS; A Case Study from WBHHS **Conrad van Rooyen** Hexeis
SESSIONS CONCLUDE	
7:30 pm - 11:30 pm	Conference Dinner Theme: Hawaiian *Proudly sponsored by Enware* Location: Sea World Plaza

Friday, March 6, 2026

7:45 am - 8:45 am	Women in IHEA Breakfast *Proudly sponsored by Schneider Electric* MC **Leigh Muirhead** Panellists **Nicole Blackburn**, Micro Grid's Director - Schneiders Electric **Caitlyn Young,** Director - Becentia Consulting Engineers **Kellie Williams**, Director Environmental Sustainability - Metro North **Sharon Anderson**, Metro Engineering Manager, Uniting Care Health
8:30 am - 3:15 pm	Registration Desk Open - Day Three
SESSION FIVE	Asset Mangement Data
9:00 am - 9:05 am	Welcome & House Keeping
9:05 am - 9:15 am	**Gold Sponsor Address** Schneider Electric
9:15 am - 10:15 am	**Keynote Address - Day Three** **Jonno White** Proudly sponsored by Polyflor
10:15 am - 10:45 am	Morning Tea & Exhibition - Day Three
SESSION SIX	Asset Mangement Data
10:45 am - 11:05 am	Lifecycle Assessment and Maintenance Modelling: A Data-Driven Approach to Extending the Operational Life of Healthcare Facilities **Seyed Safi** Covaris Pty Ltd
11:05 am - 11:25 am	Using AI to Turn Your CMMS into a Decision Support System **Mathew Wood** Aptean
11:25 am - 11:45 am	Transforming Health Infrastructure Risk Management through Digital Twins and AI **Lars Weber** Siemens
11:45 am - 12:05 pm	Transforming Fire Safety and Operational Resilience in Healthcare Through Data-Driven Digital Platforms **Phil Yang** Fiftyfive Group **Brett Spinucci** FiftyFive Group
12:05 pm - 1:05 pm	Lunch & Exhibition - Day Three
SESSION SEVEN	Climate Change
1:05 pm - 1:25 pm	Metro North HHS Sustainability Initiatives for Climate Risk and Renewable Energy **Kellie Williams** Metro North Hospital and Health Service
1:25 pm - 1:45 pm	Adapting Healthcare Services Infrastructure to a Changing Climate:Integrating Climate Risk into Asset Management Strategies **Chris McCarthy** NDY
1:45 pm - 2:05 pm	Net Zero by Design: Aligning People, Process, and Technology through Asset Management **David Chokolich** SIGURAN
2:05 pm - 2:25 pm	A Guide To Managing Climate Change Risks In Healthcare Facilities **Warren Li** LCI consultants
2:25 pm - 2:55 pm	Afternoon Tea & Exhibition - Day Three
SESSION EIGHT	Infections and Occupational Hygiene
2:55 pm - 3:15 pm	Occupational Hygiene in Healthcare 101 – Managing Physical, Chemical, Biological, Ergonomic & Psychosocial Hazards **Josiah Padget** Cetec
3:15 pm - 3:35 pm	Sanitary Transients, Aerosols, and the Pathogen Pathways we Ignore **Kiran Nayanar** H2wise
3:35 pm - 3:45 pm	Next Conference Presentation
3:45 pm - 4:00 pm	**Conference Close & Prize Draws**
CONFERENCE CONCLUDES	

Conference Venue

The 2026 National Conference is being held at the Sea World Resort Conference Centre. This state-of-the-art facility is located right by Main Beach and only steps away from Sea World.

Sponsoring or exhibiting will provide an excellent opportunity to promote your organisation and to maintain a high profile within the Health Industry.

Visit **www.iheaconference.com.au** to view the available opportunities.



Contact the Conference Organisers
Iceberg Events
Phone: +61 7 3876 4988
Email: **amy@icebergevents.com.au**

Subscribe to event updates at **www.iheaconference.com.au**

iQ Vinyl

Trusted in Australian Healthcare

For more than four decades, Tarkett iQ Vinyl has been installed in major hospitals and healthcare facilities across Australia. Chosen for environments where performance, hygiene and long-term value matter most, iQ continues to set the benchmark for resilient healthcare flooring.

Performance that outlasts

- 20 Year warranty
- Unique surface restoration
- Lowest lifecycle cost
- Lowest carbon footprint, verified through EPDs
- Verified take-back and recycling through **ReStart®**

With a wide range of colours, formats and performance options, the Tarkett iQ Vinyl range supports cohesive, functional and future-focused healthcare interiors without compromise.



www.tarkett.com.au

Tarkett



Understanding current practice: Legionella risk management in premise plumbing systems

Hao Xi[a,c], Kirstin E. Ross[a], Jason Hinds[c], Greg Falzon[a], Harriet Whiley[a,b]

[a]College of Science and Engineering, Flinders University, Bedford Park, SA, Australia

[b]ARC Training Centre for Biofilm Research and Innovation, Flinders University, Bedford Park, SA, Australia

[c]Enware Pty Ltd, Caringbah, NSW, Australia

Introduction

Legionnaires' disease, caused by *Legionella* bacteria, is a growing public health concern, with cases rising in worldwide in recent decades. One of the main sources of *Legionella* is premise plumbing systems – the potable water systems in buildings – which create ideal environment for the bacteria to grow and spread.

Controlling *Legionella* in these premise plumbing systems is essential. While there are guidelines available for managing this risk, they are not mandatory. As a result, how *Legionella* is managed varies widely. Factors like the type of building, available budget and resources, level of expertise, and understanding and awareness of the risk all influence how control measures are applied.

Currently, little is known about what specific strategies are being in routine facility management—especially in water systems—and how consistently they are followed.

To fill this knowledge gap, survey research is needed. This research would gather information about how *Legionella* control is considered, from the design of plumbing systems to daily operations. It would help identify what methods are effective, what challenges are faced, and what support is needed to improve practice.

Methods

Research strategy and Data collection method

This study used a mixed-methods survey to collect both quantitative and qualitative data from participants involved in *Legionella* control. The survey included an online questionnaire, followed by an optional phone interview for participants willing to share more in-depth insights.

The questionnaire was designed to explore the knowledge, opinions, experiences, and practices of professionals working in *Legionella* management. Both open-ended and

Cleveland
MEDICAL AIR SOLUTIONS



Experts in Medical Compressed Air Solutions

We have over **30 years of experience** and an extensive range of high-quality products including **Class ZERO Oil Free Air Compressors, Ultra Low Purge dryers, HLI enabled Breathing Air Purifiers and 15bar Surgical Tool Air Compressors.**

About Us

Since 1994, Cleveland Compressed Air Services have proudly provided and distributed our products and services to the healthcare industry. We offer tailored solutions backed by quality products, audits, installations, service & repairs.

Our solutions include:

- Medical Breathing Air Compressors Systems
- Laboratory Air and Gas Generation Systems
- Medical Suction systems
- Filtration
- On-site Nitrogen Generation Systems
- On-site Oxygen Generation Systems
- Medical Tool Air Compressor Systems
- CSSD Compressor Systems

Cleveland CAS are authorised service representatives for well-renowned brands such as:

ALMiG Compressor Systems

Parker

BOGE

OMEGA AIR more than air



24/7 Support

Our network of service technicians are there to help whenever they're needed.



Medical Expertise

We offer Medical Compressed Air Solutions with a wealth of experience.



Oil Free Solutions

We are licensed distributors of oil-free and environmentally friendly compressor solutions.

info@ccair.au
(08) 9452 3669
clevelandcompressors.com.au

Get in touch with the team today!

closed-ended questions were used to gather a broad range of information-quantitative data through structured questions and qualitative insights through open responses.

The survey focused on two key stages in a building's plumbing system lifecycle, based on how *Legionella* control is typically addressed (1) Plumbing system design (2) Facility operation and maintenance.

For the plumbing system design stage, questions were structured around three main areas:

- How *Legionella* risk is considered during the design process
- Requirements or expectation from clients
- The influence of water conservation policies on system design

For the facility operation and maintenance, the questions covered topics such as:

- Types of pipe materials in use
- *Legionella* risk management procedures
- Hot water systems and temperature control
- Disinfection methods and monitoring
- Flushing practices
- *Legionella* testing
- Key challenges faced during routine maintenance

The questions were informed by existing environmental guidelines and practical knowledge from the field. Form an initial set of questions, a refined list was selected to balance relevance, simplicity, and survey length, especially considering the varying technical backgrounds of participants. Highly technical details were minimized to ensure accessibility.

Phone interviews followed up with participants who volunteered for further discussion. These interviews included open-ended questions about:

- Commonly used *Legionella* control methods
- Unique or specialized approaches
- Real-world examples of both successful and unsuccessful practices
- Tools or technologies participants wish they had to improve monitoring and control efforts

These interviews also used probing questions to help participants reflect on their experiences. The discussion of tools – though presented as a "wish list" – was designed to uncover technical gaps and practical needs in the field. At the end of the interview, participants were given an open opportunity to raise any additional issues or insights not previously covered.

Participant recruitment

Participants in this study came from various professional backgrounds related to *Legionella* control, including premise plumbing systems, facility management, environmental health, environmental microbiology, and water treatment.

They were recruited through the network of LAMG, Enware roundtable, *Legionella* and BAPP conference, LinkedIn web page of Flinders environment health.

Participant consent

Ethic approval was provided by Flinders…. participant is voluntary and provided the formal consent before taking the online survey. The participant can exit the survey or interview at any time. All the data collected were managed under the university's confidential data management policy.

Data analysis method

Qualtrics was used to develop the online survey and data collection. The questionnaire was designed to two streamlines depending on the role of the participants. One is for facility manager, maintenance staffs and water consultants. Another streamline is used for designer and specialists. The data storage and preliminary data analysis and synthesis are provided by the software as well.

Microsoft Teams and Avaya phone applications were employed for phone interviews. The audios were recorded by the apps and converted to text using Microsoft Teams or Microsoft word. Ai tool (Chatgpt) was used to assist the researcher to extract the key information from the original transcript of the interviews. Combined with manual review and verification, all the key information were processed and arranged into excel table for analysis.

Result

Online survey results

A total of 67 participants took part in the online survey. Among them, 31 (46%) work in design and engineering, 10 (15%) are water treatment consultants, 8 (12%) are responsible for field maintenance and repairs, 7 (10%) work in regulation and compliance, 2 (3%) are involved in device and equipment installation, 2 (3%) manage facilities, and 7 (10%) hold other roles (see Figure 1: Participants by Roles) .

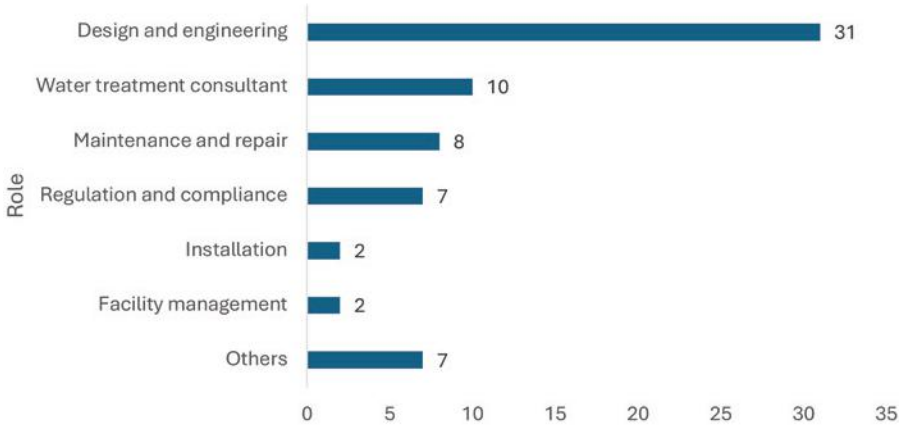
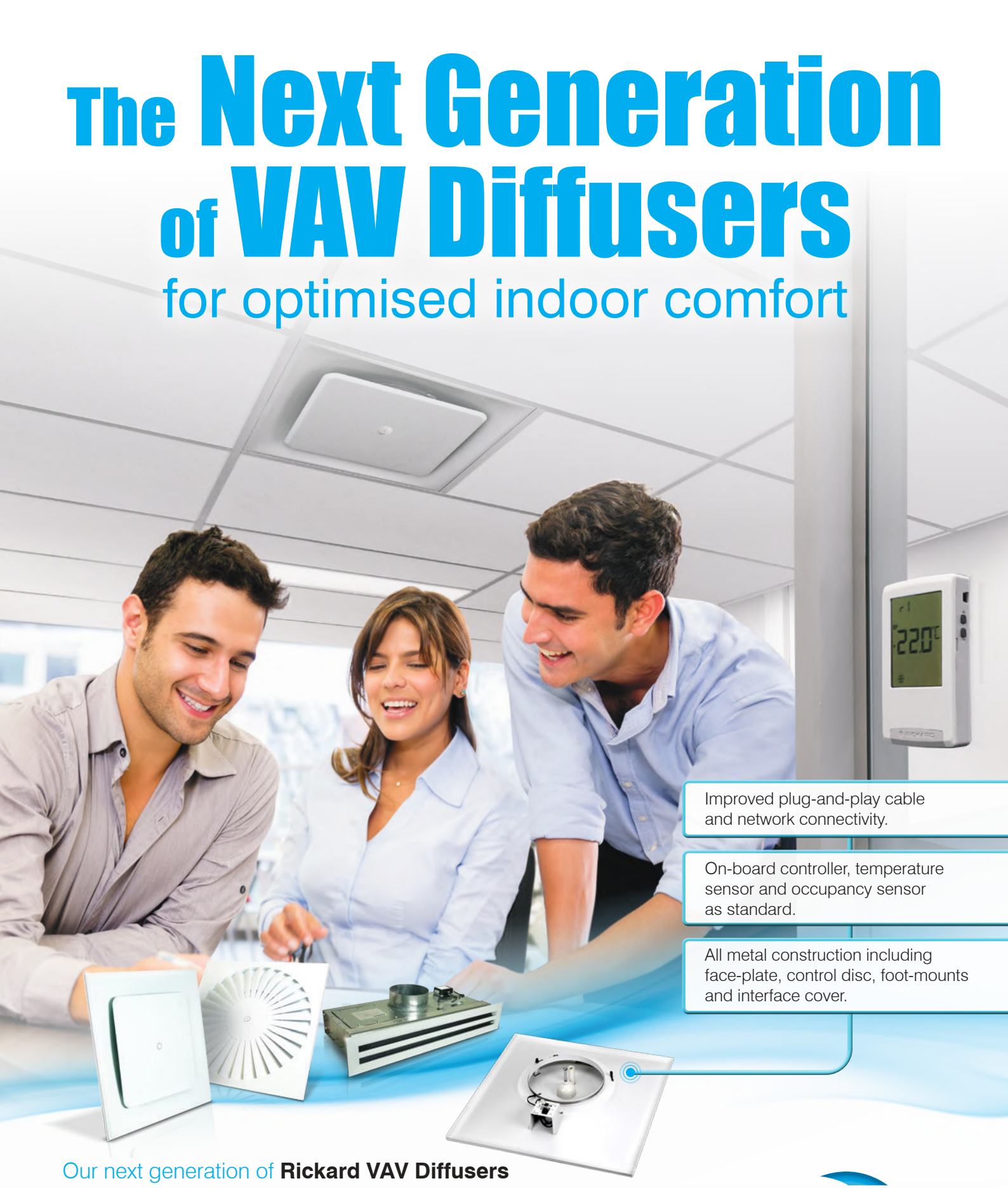


Figure 1: Participants by Roles

The Next Generation of VAV Diffusers

for optimised indoor comfort



- Improved plug-and-play cable and network connectivity.
- On-board controller, temperature sensor and occupancy sensor as standard.
- All metal construction including face-plate, control disc, foot-mounts and interface cover.

Our next generation of **Rickard VAV Diffusers** not only provide occupants with optimised thermal comfort, they are also easier to install, and include more features and functionality. These auto zoning diffusers can operate through a BMS or Rickard standalone software, and reduce power consumption by lowering demand on the air handling system.

For more information call **1800 133 379**
or email **info@fantech.com.au**

www.fantech.com.au

FANTECH
Intelligent Ventilation

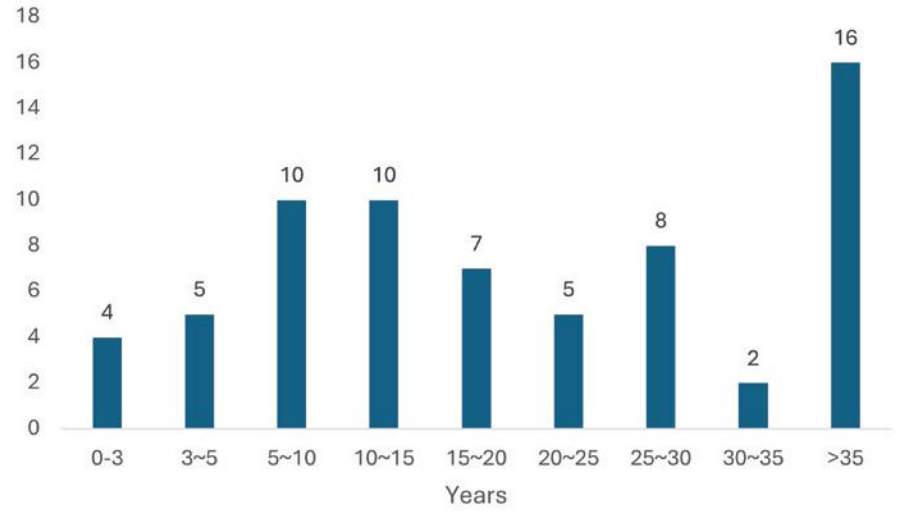


Figure 2: Participants by years of working experience

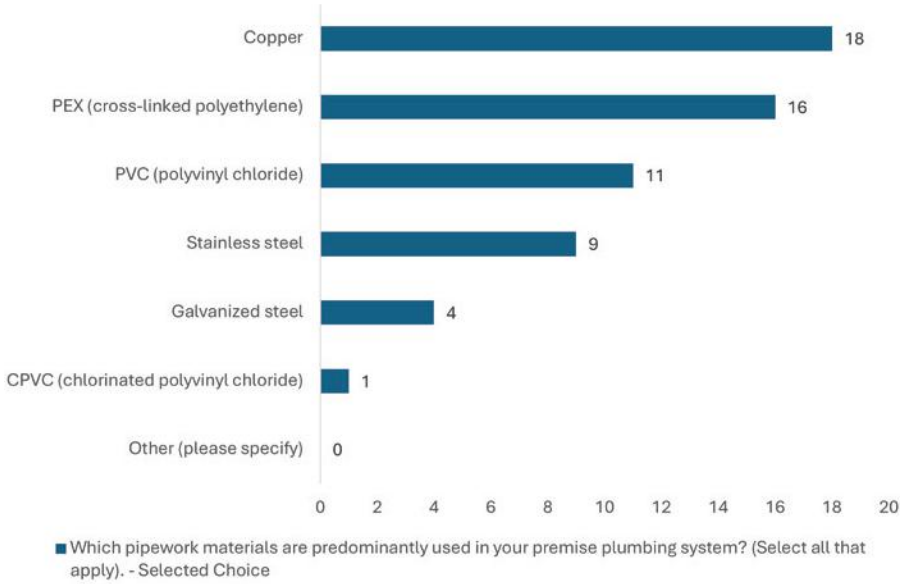


Figure 3: Q4 - Which pipework materials are predominantly used in your premise plumbing system?

As shown in Figure 2: Participants by years of working experience, nearly 72% of participants have more than 10 years of professional experience. The participants reported working with a wide range of building types, including hospitals, commercial buildings, residential aged care facilities, high-dependency aged care facilities, domestic homes, schools, defence facilities, and industrial buildings.

Twenty participants - working in roles such as facility management, maintenance and repair, installation, and water treatment consulting – responded to the section of the survey focused on field experience.

In response to the question "Q4 – Which pipework materials are predominantly used in your premise plumbing system?", copper was identified as the most used pipe material. Other frequently used materials included PEX (cross-linked polyethylene), PVC (polyvinyl chloride), stainless steel, galvanized steel, and CPVC (chlorinated polyvinyl chloride).

Survey Results on *Legionella* Control Practices in Premise Plumbing

In response to Q5 – "Is there a documented procedure for managing *Legionella* in your facility's plumbing system?", 19 participants replied: 7 (36.8%) said "yes", 4 (21.1%) said "no", and 8 (42.1%) were unsure. This indicates that fewer than half of the participants were aware of an existing documented procedure at their site.

For Q6 – "Which type of hot water system is in your facility?", responses showed that all four major types of hot water systems are used in the field. Facilities often operate multiple systems or combinations simultaneously.

Regarding Q7 – "Do you monitor the temperature of warm/hot water in the system?", 14 out of 19 participants confirmed temperature monitoring, while 2 answered "no" and 3 were unsure. Additionally, 17 out of 19 participants knew the set temperature of the hot/warm water system, with values ranging from 46°C to 75°C (mean: 62°C). Return temperature ranged from 40°C to 68°C (mean: 55.6°C). Cold water temperature monitoring was less common, with only 44.4% (8/18) participants doing so, and 10 either responding "no" or unsure.

For Q14 – "Do you do on-site disinfection? If so, which disinfection system is used?", 17 participants responded. Eleven reported using on-site disinfection methods, including thermal disinfection (7), chlorination (6), UV light (6), copper-silver ionisation (3), chlorine dioxide (2), monochloramine (2), and others (2). Six reported no on-site disinfection. Chlorine levels were monitored at 6 sites with varying frequencies: weekly (1), monthly (1), on request (2), dependent on previous test results (1), and one unknown. Chlorine dioxide and monochloramine were monitored either weekly, monthly, or on request.

For Q16 – "Is regular flushing performed for fixtures (e.g., shower, tapware) that have not been used for an extended period?", of the 16 responses, 6 (37.5%) confirmed regular flushing, 4 (25%) said it was done occasionally, another 4 (25%) said it was not performed, and 2 were unsure.

In Q17 – "How do you manage fixtures that haven't been used for an extended period?", responses

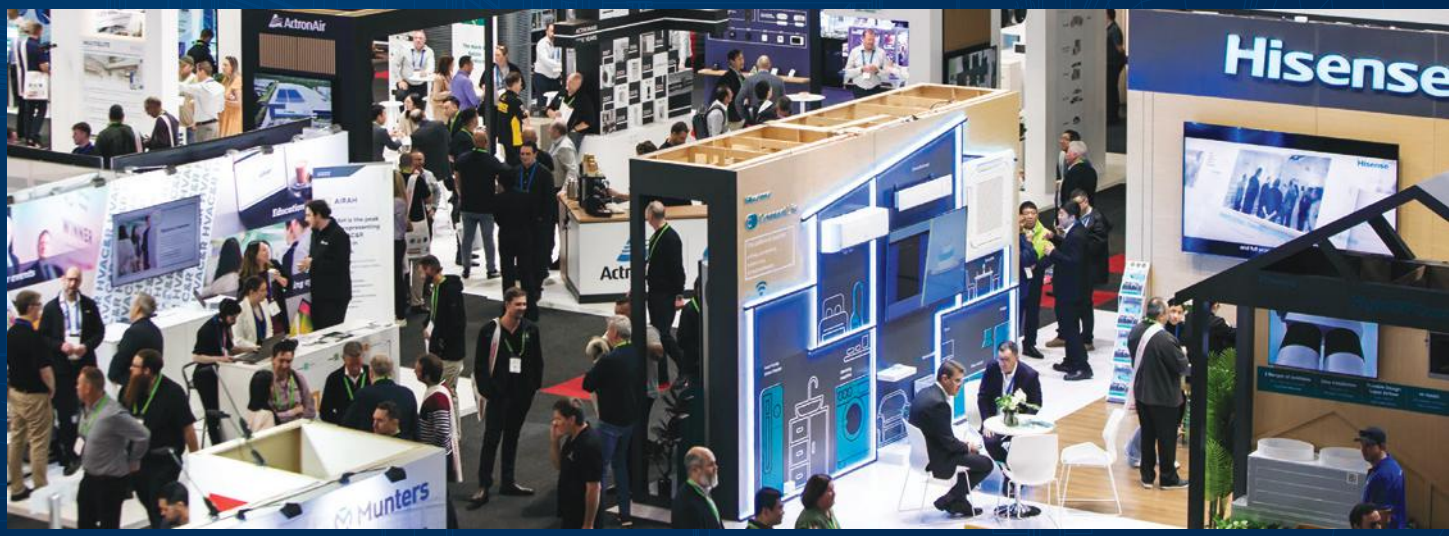
ARBS2026

AIR CONDITIONING, REFRIGERATION, BUILDING SERVICES EXHIBITION

5-7 MAY 2026
MCEC MELBOURNE

REGISTRATION NOW OPEN

Australia's largest HVAC&R and building services exhibition returns to Melbourne



10,000+
VISITORS

350+
EXHIBITORS

100+
SEMINARS

Register for free
arbs.com.au/arbs2026

SCAN FOR FREE ENTRY

(n=16) varied: 6 flushed fixtures during routine cleaning, 4 flushed all fixtures regardless of use, 2 targeted low-use or high-risk fixtures, 1 used a monitoring system to identify fixtures, 1 selected all options, and 2 did not flush.

For Q18 – "How often is a flushing routine implemented?", 9 responded: 3 flushed every 7 days, 3 every 30 days, and 3 were unsure. Five participants had defined minimum flushing times (1–5 minutes, mean: 2.75 minutes), two did not, and two were unsure.

In response to Q21 – "Does your facility conduct water testing for *Legionella*?", 16 answered: 9 (56.3%) conducted testing, 4 (25%) did not, and 3 were unsure. Testing frequencies included quarterly (most common, 4), every 6 months (with mandatory disinfection), monthly, annually, on request, or based on risk assessment.

For Q22 – "What are the main challenges you face in *Legionella* control?" (n=16), the most cited challenge was limited financial resources (8), followed by limited staff (7), lack of internal knowledge (7), organisational resistance (5), and technical challenges (5). One participant mentioned the difficulty of managing varied infrastructure.

Responses from Designers and Specialists

Questions Q23–Q27 targeted participants in design/specialist roles. Of the 34 respondents, 73.5% (25/34) had formal qualifications in hydraulic design and 97% (33/34) considered *Legionella* proliferation during design.

For Q25 – "How do Plumbing Code of Australia (Vol. 3 NCC) requirements influence your design?", 27 participants responded:

- 14 (51.8%) said the standard strongly influenced their designs.
- 7 (25.9%) viewed the standard as limited and referred to additional guidelines.
- 6 (22.2%) said it was not applicable.

In Q26 – "Do clients include *Legionella* control in the design brief?", among 32 responses:

- 20 (62.5%) said clients sometimes required it.
- 8 (25%) said it was required.
- 4 (12.5%) said it was not required.

In Q27 – "Do you consider *Legionella* risk when designing buildings with water-saving features?", 30 participants answered:

- 18 (60%) said yes.
- 4 (13.3%) said sometimes.
- 4 (13.3%) said no.

Lastly, in Q30 – "Have you received specific training on *Legionella* control?", 48 responded:

- 18 (37.5%) had received training.
- 30 (62.5%) had not.

Although more than half of participants hasn't taken the *legionella* control, most of the participants had heard of other plumbing pathogens besides *Legionella*.

Phone interview result

A total of 12 participants took part in follow-up phone interviews. Their roles included 9 designers, 2 water treatment consultants, and 1 maintenance and repair professional. The interviews covered four main topics:

1. Design strategies and *Legionella* control solutions
2. Practical examples and lessons learned
3. Tools and training
4. Other relevant topics.

Design strategies and control solutions

This section highlights how *Legionella* risks are considered in building water system designs, and the various strategies professionals use to reduce those risks. Participants shared both successful and unsuccessful examples from their experience, along with lessons learned from real-world practice.

Design priorities

One interviewee emphasized that all designs should take *Legionella* into account, though the level of focus depends on the risk level of the facility. Nine participants discussed how they prioritize design decisions. For example, six noted that healthcare and aged care facilities are given the highest priority due to their complex water systems and the vulnerable populations they serve. Five participants mentioned that in healthcare settings, water systems are often divided into smaller zones to better manage risk. However, two others said they apply the same high standard across the entire building. Still, two interviewees pointed out that budget constraints often limit how much can be implemented.

One participant noted that the risk of *Legionella* is often overlooked in residential homes—especially for older adults. For instance, lowering water temperature to save energy may unintentionally increase the risk of bacterial growth.

System layout

To reduce the chance of water stagnation, system layouts are simplified. Seven participants recommended minimizing pipe lengths (reducing "time to tap"), avoiding dead legs (unused sections of pipe), and using compact loop systems. While loop systems are typically used for hot water, six interviewees mentioned that cold-water loops are becoming more common too. The layout may vary depending on the building's size and form, and high-rise buildings can face pressure zone issues that may cause heaters to be bypassed—highlighted by one interviewee.

Another approach mentioned by two participants was to place high-use fixtures, like toilets, at the end of pipe runs to keep water moving. One interviewee also suggested removing cold-water storage tanks, as they can become problematic.

Pipe size

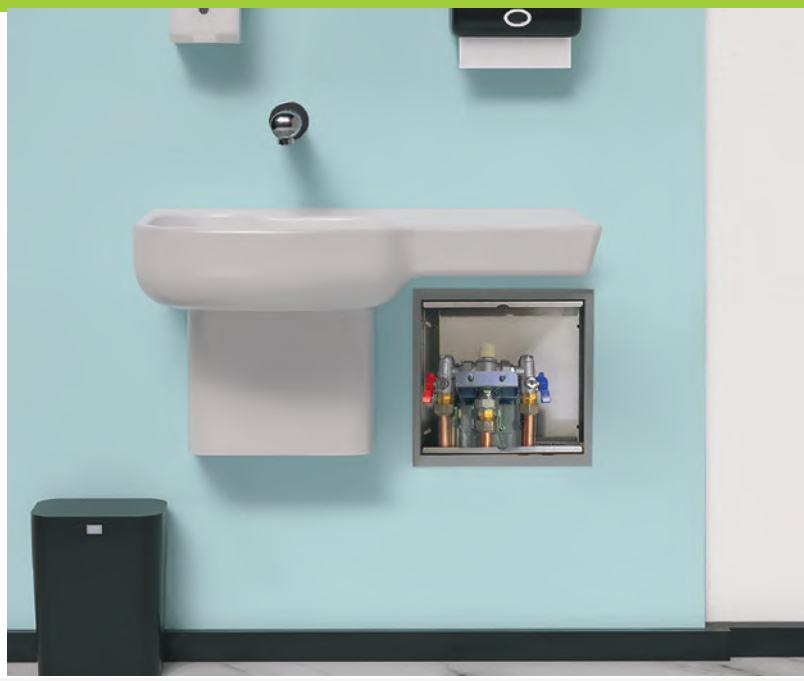
Regarding pipe sizing, pipes are usually designed according to AS/NZS 3500 and sometimes cross-checked with the European DIN 1988-300. However, older design practices (based on outdated water flow simulations from

When temperature control fails, everything else is at risk.

In healthcare environments, temperature control is not optional — it's critical.

GENTEC's FLOMIX Thermostatic Mixing Valves and TEMPSET Thermostatic Taps are engineered to deliver stable water temperatures, reduce scalding risk, and support compliance across clinical and public healthcare spaces.

Designed for hospitals, aged care, and high-use healthcare facilities, these solutions combine precision engineering with long-term reliability.



Thermostatic Mixing Valves

Thermal Flush – Easily adjusted by using a multi-purpose tool



- Lead Free
- Built-in Thermal Flush capability
- Easy in-situ servicing
- Low cost – both initial and on-going maintenance
- Built-in isolation valves, strainer, and non-return valves
- Easily replaceable and compatible with existing installations
- NSW Health Approved

Thermostatic Mixing Taps

Thermal Flush – Easily adjusted by using a multi-purpose tool



- Lead Free
- Built-in Thermal Flush capability
- Point-of-use thermostatic tap
- Removable spout for hygienic cleaning
- Supplied with strainers and non-return/ isolation valves
- Laminar flow outlet – Reduces aerosoling and splashback
- NSW Health Approved

Engineered solutions for healthcare environments where safety, compliance, and performance matter.

GENTEC

gentecaustralia.com.au
info@gentecaustralia.com.au
+612 9319 4422

Lead Free AS 4032.1 Lic WM 74512 ApprovalMark

Lead Free AS 4032.4 Lic WM 74512 ApprovalMark

ISO 9001 Certified ApprovalMark

Table 1: Design stratigies and control solution by interviewees

Items	Count of Interviewees
General Approach	
All designs consider *Legionella*	1
Design prioritization	
System Zoning and Segmentation	7
Building type	6
Trade-off	2
Risk in residential settings	1
System Layout	
Simplify layout	7
Loop system	6
Pipe endpoint usage	2
Cold Water Storage Tanks	1
Pressure zone issue	1
Pipe Sizing and Flow	
Pipe size	9
Design Flexibility	
Spare capacity	4
Material Use	
Typical materials	8
Material Selection	5
Material failure	1
Disinfection and Water Quality Maintenance	
Secondary disinfection	12
Thermal disinfection	2
Sentinel points and drain valves	1
Point-of-use Solutions	1
Multi-barrier approach	1
Residual chlorine	1
Temperature Management	
Hot water temperature	7
TMV location	5
Hot water system	1
Water temperature	1
Cold water temperature	1
Monitoring TMV	1
Flow Management	
Flow rate limit	2
Maintain continuous water flow	2
Flushing	2
Fixture Selection	
Apply flow restrict	1
Mechanical faucet	1
Avoid complex fixture	1
Installation & commissioning	
Chlorine dosing during commissioning	1
Air pressure testing	1

the 1970s) often result in oversized pipes, which can reduce flow velocity and promote stagnation. Five interviewees emphasized the need to properly size pipes to maintain good water movement.

Pipe Materials

Nine participants discussed pipe material choices. Common materials include copper, PEX (cross-linked polyethylene), stainless steel, and PE (polyethylene). Copper was mentioned most frequently (by 8 participants), followed by PEX (6 participants). Material selection should consider factors like water treatment, corrosion, biofilm risk, and water quality. Two interviewees avoid using plastic pipes like PEX due to concerns about biofilm, while one noted that *Legionella* control is rarely a top consideration when selecting materials.

Secondary Disinfection

All participants reported using some form of secondary disinfection in their systems. Methods included chlorine, copper-silver ionization, monochloramine, chlorine dioxide, UV light, hydrogen peroxide, and ozone. Two interviewees also used thermal disinfection with hot water (>70°C) for flushing and sterilizing thermostatic mixing valves (TMVs). One interviewee shared a successful multi-barrier strategy that combined UV, filtration, chemical dosing, and recirculation within tanks.

In cold-water systems, *Legionella* control largely relies on residual disinfectants supplied by water utilities. Installing sentinel points and drain valves helps with localized disinfection and monitoring.

Temperature Management

Nine interviewees spoke about temperature control, a key strategy in *Legionella* prevention. Hot water loops are typically maintained at around 60°C. One participant noted that the temperature in storage tanks should exceed 65°C, and that return temperatures in the loop should be above 55°C. TMVs are used to balance safety (preventing scalding) with disinfection needs. These devices are monitored carefully.

Cold water should be kept below 20°C, as noted by two participants. In Queensland, heat exchangers are sometimes installed to cool incoming mains water. Maintaining hot and cold

Higgins

Better painting management

PAINTING AND COMPLEMENTARY SERVICES

FOR YOUR HEALTHCARE FACILITY



LEARN MORE

higgins.com.au

OUR SERVICES

- General Painting
- National Multi-Site Painting
- Colour and Specification Consultancy
- Floor Rejuvenation
- Altitude Aerial Pressure Washing
- Specialised Access
- Maintenance Painting Solutions
- Project Management
- Building Services

Australian family owned and operated since 1949.

1300 HIGGINS

water outside the "danger zone" for *Legionella* growth is critical. Real-time temperature monitoring can help catch issues early. However, there were examples of failure too, such as a heat pump system in a prison, warm water loops, or a faulty heater connection in a 70-year-old system.

Flow Management

Flow rates are designed based on AS/NZS 3500 standards, which define limits on flow velocity and dead leg length. The goal is to ensure consistent water movement throughout the system to prevent stagnation and ensure disinfectants reach all areas.

Both manual and automatic flushing were commonly used to manage stagnant zones. Interviewees shared examples where regular flushing—guided by modelling or set schedules—helped maintain system health. One noted that even a constant low flow "trickle" was better than an intermittent flush. But challenges remain:

- Manual flushing is labour-intensive and costly and may miss problem areas if not well planned.
- Automatic systems sometimes underperform or fail. For instance, in one prison, a 30-second daily auto-flush was ineffective. Poor settings can lead to significant water waste.

Fixtures and Fittings

Only one interviewee specifically discussed water fixtures. They advised avoiding overly complex fittings that can harbor bacteria and recommended mechanical taps. While aerators are often blamed for biofilm buildup, the issue may be caused by low flow rates. Instead of removing aerators, the recommendation was to use 1–2 GPM flow restrictors to maintain better flow.

Tools and training

Tools and training refer to the helpful resources, equipment, and educational support that can improve *Legionella* control in building water systems. These include tools that assist in monitoring and managing water quality, as well as training and guidance that raise awareness, build understanding of *Legionella* risks, and support effective risk management.

Desired tools

The interviewees shared a variety of tools they currently use or have seen used on-site to help control *Legionella*. These tools can be grouped into a few key categories:

Real-time monitoring tools include systems that track temperature, chlorine levels (using ORP sensors), water flow, and leaks through water meters, and even sensors that detect biofilm. One example mentioned was an information platform (D2K) that pulls together sensor data to monitor water quality and automatically generate reports and alerts—making water system management easier.

Automation and control tools include automatic flushing systems, chlorine dosing systems, flushing taps or valves, and thermostatic mixing valves (TMVs) with bypass features. There is also growing interest in more advanced solutions, such as custom-built chlorine injection systems and smart flushing/dosing systems. These automated tools are seen as effective and timesaving.

When it comes to key parameters to monitor, temperature is considered the most important, followed closely by pH and chlorine levels. Other useful indicators include conductivity, copper levels, and water hardness. While biofilm monitoring can provide valuable information, it's still too expensive to be widely used.

For on-site field testing, the most common tools are handheld thermometers and meters for measuring pH and chlorine levels. Thermometers help check water temperature manually and are useful for measuring how long it takes hot water to reach a tap. Portable chlorine meters are also used to test chlorine or monochloramine levels at different locations in the system.

Training & Guidance

Current guidelines like AS 3500 and enHealth are commonly used to help control *Legionella*. However, because these guidelines are not mandatory, they are often not followed in practice. Differences between state guidelines have also caused confusion. In addition, the national guideline is nearly 10 years old and needs to be updated to include newer disinfection methods.

Training on *Legionella* risks is especially lacking outside the healthcare sector. Seven interviewees noted that many field staff and workers don't fully understand the disinfection requirements. Failures often happen because staff are unaware of proper procedures—especially during times of staff turnover. Ongoing training and education, based on real-world examples and practical guidance, are needed. Better education would help raise awareness among a wide range of people, including homeowners, developers, and facility managers.

Others

Other topics brought up during the interviews included cost barriers to proper prevention practices, technical limitations, changing regulations, risk management, and a few working theories.

When cost savings are prioritized, features meant to prevent *Legionella* are often left out of the design—unless they are required by regulation or specifically requested by the client.

Seven interviewees discussed challenges in managing risks within plumbing systems. Good communication and coordination between teams are essential. For example, facility managers need to notify the water quality team about changes like renovations or temporary shutdowns, so they can address the risk of water stagnation. Hydraulic engineers also rely on water treatment

and risk specialists to help interpret water quality data.

One interviewee pointed out that there is a lack of technical tools, such as models for predicting stagnation, pressure changes, and water age in plumbing systems, which limits current practices.

Three interviewees shared hypotheses based on their real-world experience. One suggested that buildings with steady, low water usage might be more hygienic than those with irregular use. Another raised concerns that bacteria may develop resistance with ongoing disinfection. A third interviewee observed a regional difference: in New Zealand, plumbing systems are more often the source of *Legionella* problems, while in Australia, cooling towers tend to be the main cause of outbreaks.

Discussion

The online survey and follow-up interviews explored *Legionella* control practices across the full lifecycle of plumbing systems, from design to ongoing risk management. Topics covered included system design considerations, layout, reference to standards and guidelines, flow and temperature management, and disinfection strategies.

Focus on High-Risk Facilities

Healthcare and aged care facilities were given higher priority than residential buildings due to their complexity and the vulnerability of occupants, although elderly individuals in homes also face significant *Legionella* risks. Generally, *Legionella* risk is considered throughout the entire building design, but areas identified as higher risk may receive extra attention or stricter controls. In some cases, the entire building is managed using the highest standard, regardless of area-specific differences.

Plumbing System Design

The Australian/New Zealand Standard AS/NZS 3500 is commonly used for pipe sizing and is often cross-checked with the European DIN 1988-300 standard. However, current pipe sizing practices are based on outdated simultaneous flow rates from the 1970s, resulting in oversized pipes. Right sizing the plumbing to match fixture flow rates and actual demand can help reduce water volume and stagnation risks.

System layout design focuses on balancing water flow, minimizing dead legs (sections with little to no flow), and maintaining continuous circulation. Design strategies include simplifying pipe layouts, shortening pipe runs, and using smaller hot and cold water loop systems. Hot water loops help maintain high temperatures, while cold water loops are increasingly used to reduce stagnation and maintain disinfectant levels. At dead-end points, high-use fixtures such as toilets can be strategically placed to encourage flow. In cases where pressure zones create bypass issues in hot water loops, additional heaters may be installed to ensure consistent thermal performance.

Flushing Practices

Flushing is used to reduce stagnation, either manually or automatically. Some facilities flush all areas regardless of risk level, while others focus only on identified high-risk zones. Flushing durations range from 1 to 5 minutes. Manual flushing is labour-intensive, costly, and often inefficient if not targeted. Automatic flushing reduces labour but can waste significant water if systems fail or are improperly configured. Short flushing durations may not be effective in delivering residual chlorine to distant outlets.

Temperature Management

Temperature control is a key strategy for thermal disinfection. Hot water storage temperatures are maintained above 65°C, with hot loop temperatures over 60°C and return lines usually above 55°C. Thermostatic mixing valves (TMVs) are installed near the point of use to prevent scalding while maintaining disinfection temperatures. However, in systems using heat pumps, warm water is often delivered at 40–45°C, which can encourage *Legionella* growth. Cold water is also a concern. It cannot be assumed to stay cold, as temperatures above 20°C - common in warmer regions - can support bacterial growth. In Queensland, chillers are often installed at the building entry to lower the temperature of incoming water. Both hot-water and cold-water systems require active monitoring and management.

Disinfection Methods

Several disinfection methods are used in premise plumbing systems, each with advantages and limitations:

- Chlorine: Effective in simple systems but requires careful placement of dosing points.
- Monochloramine: Long-lasting and effective against *Legionella*.
- Chlorine dioxide: Highly effective but complex to operate and maintain.
- Copper-silver ionization: Commonly used but needs ongoing management.
- UV treatment: Best used as a pre-treatment before chemical disinfection, as it can reduce chlorine levels.
- Filtration: Point-of-use filters are installed at outlets like showerheads and taps. Effective but costly and require frequent replacement.
- Ozone: A promising but still under-researched disinfection option.
- Thermal disinfection: Uses water heated above 70°C to kill bacteria and is also applied for sterilizing TMVs. Automated thermal flushing has been considered but not widely adopted due to high costs.

In practice, cold water systems mainly rely on residual chlorine from municipal supplies. Because of budget constraints, disinfection strategies often focus on system design features—such as zoning, isolatable sections, and built-in flushing capabilities—that support ongoing *Legionella* management.



Future Proofing Healthcare Infrastructure

Engineering resilient, low-carbon and risk-aware healthcare, aged-care and mental health assets since 2007.

Low Carbon Transition

- Electrification of plant infrastructure
- Energy optimisation strategies
- Smart monitoring and performance tracking
- Carbon reduction pathways

Engineering for live environments

- Major hospital redevelopment programs
- Aged care asset upgrades
- Mental health facility modernisation
- Essential services replacement in live environments

Challenges in Current Practice

Several challenges were identified in the field:

- Lack of training: Many facility workers are not aware of *Legionella* risks, leading to human errors.
- Cost limitations: Financial constraints often prevent the adoption of best practices or necessary technologies.
- Need for real-world case studies: Practitioners expressed interest in learning from documented *Legionella* incidents supported by laboratory testing.
- Poor communication: There is often a lack of coordination between departments. For example, facility managers may not inform water quality teams about temporary shutdowns or refurbishments.
- Conflicting guidelines: Differences between state-level regulations can lead to confusion.
- Outdated national standards: Current standards do not reflect emerging disinfection technologies.
- Lack of clear operational guidance: There is a strong need for practical, step-by-step guidance on implementing *Legionella* control strategies in different settings.

Conclusion

This study, based on preliminary data, provides a valuable benchmark for current *Legionella* control practices in premise plumbing systems in Australia. While it does not capture every detail or practice, it offers an overview of key areas, including system design considerations, prioritization of high-risk zones, system layout, pipe sizing, disinfection strategies, temperature and flow management, staff training, and reference to standards and guidelines.

By combining insights from both successful practices and challenges encountered in the field, this research offers a snapshot of how *Legionella* control is currently managed. It also highlights several common issues, such as a lack of training and awareness about *Legionella* risks, outdated standards, the need for evidence-based case studies, poor communication between teams, budget constraints, and insufficient use of effective prevention strategies. In addition, there is a clear demand for better tools to monitor water quality and control *Legionella* more efficiently.

Although based on preliminary findings, this study establishes a useful reference point for understanding how *Legionella* is managed in buildings today. It also lays the foundation for future research to address gaps and improve risk management strategies.

However, there are some limitations. The length of the survey and interviews restricted how many topics could be covered in depth. The participant group was also unbalanced, with most respondents being designers or specialists and fewer from on-the-ground operational roles. Because the data were based on personal experiences and opinions, responses were influenced by individual perspectives and memory, which may introduce bias.



Control My Building is a trusted Building Automation System Integrator serving the Sydney region for over 8 years. We provide solutions for optimisation and control of Air Conditioning systems for commercial buildings, warehousing, retail, education and health care. We have extensive knowledge and experience in the supply, installation and commissioning of controls and monitoring of clean rooms, isolation rooms, PC2 labs, PC3 labs, theatres and other critical area.

We are trusted partners for Siemens, EasyIO and Distech Controls and working with our mechanical electrical team we can provide a turnkey solution for your needs. Our services include, but are not limited to, the following:

- Service and maintenance of the Siemens, EasyIO, Distech and Niagara products
- Supply, installation and commissioning of new BMS hardware including Siemens Desigo CC, EasyIO Niagara N4 and Distech Niagara N4
- Supply, installation and commissioning of variable speed drives
- Mechanical electrical works including supply and installation of mechanical services boards
- Preventative maintenance works of building automation equipment and VSD's

Phone 0402 365 698 or visit www.controlmybuilding.com.au

CONTROL MY BUILDING

Solution Partner Building Technologies SIEMENS

EasyIO®

DISTECH CONTROLS™



More assurance.
Less uncertainty.
Supporting better health.

Lucid works alongside health leaders to turn complex clinical infrastructure and asset challenges into clear, actionable strategy.

Whether you're revitalising ageing assets or deciding where to invest next, we bring practical engineering insight, asset management, sustainability thinking, and clinical resilience expertise to help you move forward with clarity.

Let's talk about what's next.

Lucid

lucidconsulting.com.au

Australia's industry leader in **HVAC&R** and **Power rental solutions**

Engineered Solution
Personalised, innovative and simplified

Specialised Equipment
More than 9000 engineered products

Every Industry
Backed by a specialised team

Simplified Process
Streamlined operation from start to finish

Dedicated Service
24/7 service nationwide



Reverse Cycle Package Units



Chillers



Spot Cooling



Dehumidifiers



Mobile Coolrooms



Refrigeration



Reefers

For more information **free call 1800 626 996**

Aircon Rentals
Making the difference

www.aircon.com.au

From Zero Redundancy to Full Power in 72 Hours: High-Altitude Chiller Rescue for Private Hospital at Full Occupancy





In early December, a private hospital in Canberra faced a serious infrastructure issue just as summer was kicking off. A double compressor failure in the permanent chiller plant left the hospital with no backup and inadequate cooling. With temperatures soaring above 30°C, the facility had to depend on a significantly under-sized secondary system from a nearby building. Without quick action, critical services—including operating theatres and the emergency department—were in jeopardy.

ENGINEERING ASSESSMENT AND SOLUTION

Aircon Rentals jumped into action right away, performing a swift assessment of the hospital's needs and physical limitations. The main hurdle was the plant room located on the fourth floor, which had no direct access from the ground level. To tackle this, our engineers crafted a temporary solution using an 800kW air-cooled chiller set up at ground level. In excess of 50 meters of 6-inch rigid and flexible piping was securely attached to the building's exterior to connect to the plant room, along with heavy-duty power cables running vertically from the ground to the fourth floor.

DEPLOYMENT AND INSTALLATION

Given the urgency and the hospital's need to stay fully operational, the installation took place outside of regular hours. Aircon Rentals organised a 25-tonne crane lift to place the chiller in the loading dock and handled all traffic control and road closures necessary for a safe delivery. The pipework and power setup were completed quickly to restore cooling with minimal disruption.

COMMISSIONING AND OPERATION

The system was fully commissioned and up and running within 36 hours of the equipment's arrival. Factory testing done in Sydney ensured it was ready to perform right away. Once operational, the temporary chiller delivered reliable cooling throughout the peak summer heat, keeping the theatres and emergency department running smoothly.

DECOMMISSIONING AND SITE RESTORATION

Once the hospital's permanent compressors were fixed, the incumbent system was put back into service. On Christmas Eve, the temporary system was isolated, and the site was fully restored without affecting patient care.

SUMMARY

This project showcases Aircon Rentals' capacity for providing quick, engineered solutions even in high-risk situations. Despite the site having no backup systems and facing significant height challenges, the team managed to swiftly deliver a fully operational system — avoiding any downtime and ensuring the safety of both patients and staff during the sweltering heat.

TESTIMONIAL

Our client experienced a complete chiller failure, with eplacement parts unavailable for an estimated 4–5 weeks. As the failed chiller supplied temperature-sensitive critical infrastructure, an urgent interim solution was required. Our team engaged Aircon Rentals to provide temporary cooling. Following initial discussions, Aircon Rentals mobilised quickly, travelling to Canberra to assess the site. A detailed installation price was provided the following day. All works were completed within one week and included crane lifts, traffic management, materials, labour, and coordination of delays that were outside the control of both parties. Despite these challenges, the installation was delivered within the required timeframe. Once commissioned, the temporary system performed to a high standard and successfully maintained the required environmental conditions. This project demonstrated Aircon Rentals capability to deliver a complex, time-critical solution at short notice.

Project Highlights

- Proposal Turnaround Time: Initial inspection Friday, operational by Thursday
- Duration: ~3.5 weeks
- Equipment: 1 x 800kW air-cooled temporary chiller
- Pipework: 50m of 6-inch rigid and flexible pipework braced to building exterior
- Power: 40m of 185mm SDI cabling
- Installation: Loading dock placement with 25-tonne crane lift
- Rapid Commissioning: 1.5 days from delivery to full system integration
- Operational Success: Maintained 100% uptime for operating theatres and ER

Aircon Rentals
Making the difference

Cleaning & Disinfection of Hot and Cold Water Systems



An authentic and comprehensively developed training program on how to disinfect water services in buildings. The risk to end users and system infrastructure is high if remediation practices are not carried out with an appropriate level of knowledge and understanding of water chemistry and processes. This 1 day course developed by the Water Management Society with over 20 years experience and knowledge, is widely acknowledged and highly regarded in the UK, which has been adapted exclusively with the Australian Healthcare and aged care sector in mind. The course content and proven processes demonstrates what is considered to be best practice to chlorinate infected water services in both commercial and domestic situations.

Who should attend:

Maintenance managers of aged care, hospitals and healthcare facilities, Engineers, Maintenance Personal, Plumbers, Project managers, etc.



The venue:
Watts Works Learning Centre
7 Endeavour Rd, Caringbah NSW 2229
A 30 minute drive from Sydney airport

Course objectives:

- Understand the need for cleaning and disinfecting systems.
- Understand how to complete the task correctly.
- Receive practical experience and advice in carrying out the work.
- Managing work safely and effectively. Earn a certificate of attendance and 12 months LMAG membership with restricted Water Management Society membership.

Enrolments and enquiries:

☎ 0435945840
lmag.org.au/contact

Course fee

LMAG Members: $650
BPAA Members: $750
Non-members: $850

The Legionella Management Advisory Group committee and the BPAA, are very proud to publicly launch our course on ***Cleaning and Disinfection of Hot and Cold Water Systems.***

The course is being delivered under licence from the Water Management Society in the UK, who have been delivering the training for more than 20 years. The course material is based on evidence based, scientifically proven processes and practices which is the beauty of this course. The LMAG have a formal affiliation with the Water Management Society and our committee have worked for more than 12 months to bring this course to Australia.

This is a 1 day program combining theory and practical elements. The course will be delivered at the brand new Watts Works Learning Centre, 7 Endeavour Rd Caringbah NSW. A 30 minute drive from Sydney airport.

Topics covered:

- When and why disinfections are undertaken and how they are to be carried out.
- Information on the importance of, and actual production of, a task risk assessment and method statement prior to carrying out the work.
- Guidance on model methods and how to fit them to individual systems.
- Instruction on how to calculate system volumes and how to calculate the volumes needed of different strength chemicals required for disinfection and neutralisation.
- Instruction on sampling, testing chlorine levels and the safe handling of chemicals.
- Practical implementation of the aspects taught in the classroom, by carrying out a disinfection in the Practical Training Area.

Course dates for 2026:

13th February (Course full) – 22nd May – 28th August - 27th November

The training will be delivered by LMAG President Kelvin Slade. We look forward to delivering a truly unique and rewarding training experience.

Enrolments and enquiries:

☎ 0435945840

lmag.org.au/contact

Course fee

LMAG Members: $650

Non-members: $850



MTA PRECISION CHILLERS & HEAT PUMPS

THE TRUSTED SOLUTION FOR MEDICAL TECHNOLOGIES



Products which always work, everywhere

MTA chillers perfectly match medical application needs, ensuring a worldwide acclaimed solution offering tried and tested reliability levels.

TAE G is the **process chiller** designed specifically for the most demanding **industrial applications**, combining the **reliability** and **durability** with the application of **eco-friendly refrigerants** R513A and R454B.



Multiple solutions to all your needs

MTA offers air and water-cooled chillers and heat pumps in the 2 – 2,000 kW range with scroll-inverter, scroll, multi-scroll and screw configurations.

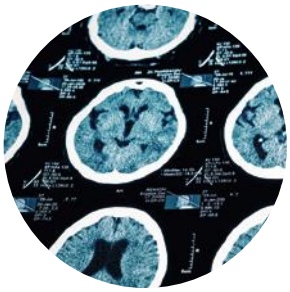
ARIES G air-cooled chillers with scroll compressors up to 930 kW. **High seasonal efficiency**, low operating costs, and sustainable performance thanks to R454B refrigerant, **total heat recovery**, and **high-efficiency exchangers**.



The green transition of energy systems

Always focused on energy efficiency and environmental protection, MTA further strengthens its commitment by adopting low GWP refrigerants.

iCYGNUS N HP is the brand new air-source propane **R290 heat pump**, with inverter compressor, delivering **high water temperatures** with **maximum efficiency** and **silent operations**. The sustainable electrification of heating.



Fail-safe cooling for medical technologies

MTA systems are applied in modern medical facilities, including imaging and oncology technologies for the cooling of MRI, LINAC and PET machines.

Medical processes and **facilities**, including computed and magnetic resonance tomography, lithotripsy, lasers and X-rays, require consistent **operating safety** and **thermal precision**, ensuring **image quality**, **safe functioning** and **human comfort**.

MTA Australasia www.mta-au.com

Dandenong South VIC 3175
Tel. +61 1300 304 177
E-mail: sales@mta-au.com



IL4 Special Study:
Step 1 Critical success factors

Jordan Barlett

A new hospital building is an exciting (and generally a long-awaited) *opportunity* to *strengthen* the *business-as-usual* services provided by a health service, especially if it's a primary hospital with emergency departments (i.e. an Importance Level 4 facility with post-disaster obligations). Design teams work diligently to bring upside improvements, although: 'Who is focused on the *weaknesses & threats* for *business as unusual* (disruptive events)?

'Have the hospital engineering team, disaster managers, business continuity practitioners, and facility management been afforded the opportunity to explore their lessons-learned, post-disaster expectations of service, and address the vulnerabilities to natural hazard events?

The easy assumptions are:

- *Resilience is mandated: The National Construction Code addresses these.*
- *Best Practice: We've hired the best consultants in the country!*

Well, let's test these statements.

The Earthquake Actions in Australian standard (AS1170.4:2007) is mandated by the *NCC* (since 2010) and requires a *Special Study* for IL4 infrastructure to ensure it *remains serviceable (operational) for immediate use* for a given design earthquake event (IL2). This *Special Study* may not seem so relevant to Australians (until the next event occurs near a city). However, it does provide an opportunity to consider a multitude of natural hazard events and establish a baseline for new facility design for resilience.

Reader poll time: *Since 2010, how many IL4 Special Studies have you or your colleagues contributed to?*

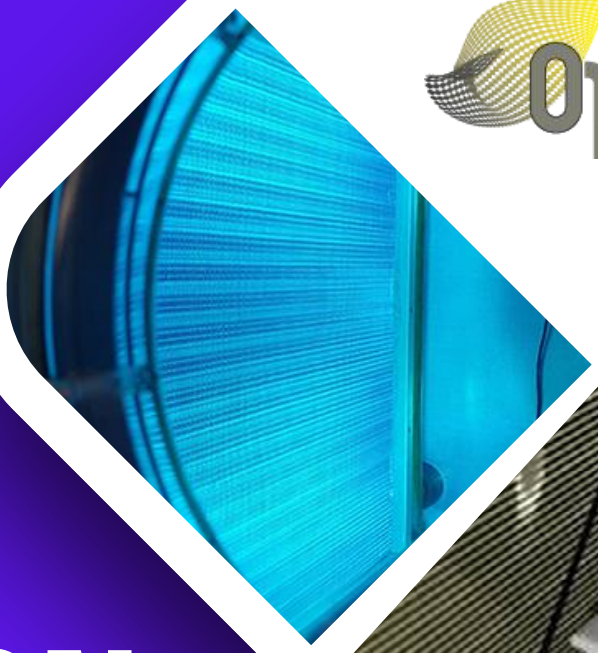
Unless you're based in South Australia, it's unlikely an IL4 Special Study was completed. If it was, it's unlikely that stakeholders such as yourself were heavily consulted and that it was based upon relevant guidance or established practice.

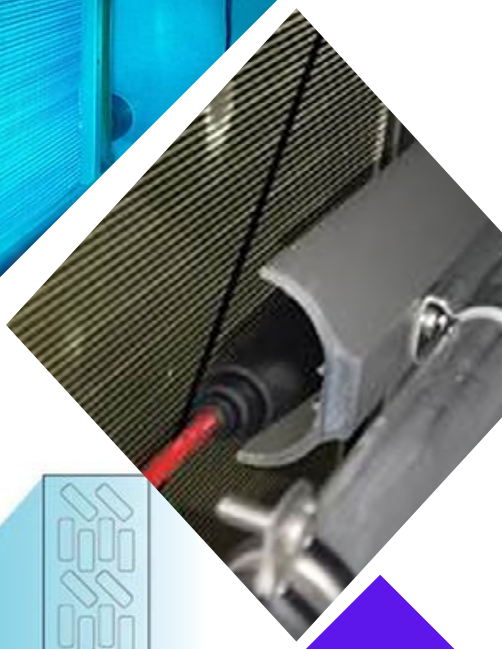
Special Study Process

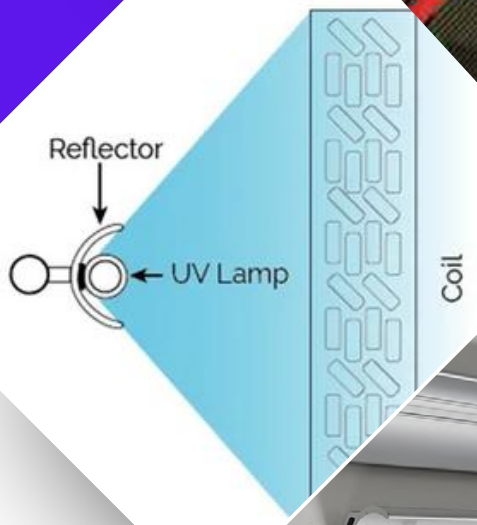
At this stage, it is best to direct the reader to the most comprehensive paper on the topic: McBean, P. (2021) AS1170.4 Special Study Requirements for Importance Level 4 Buildings and Facilities. McBean proposed a strategy (process) for defining a facility's post-disaster functions, establishing performance targets, treating vulnerabilities, embedding design outcomes for the construction process, auditing the outcomes, and providing a summary and guidance for incoming facility managers to manage and maintain the ongoing resilience measures. Sounds simple, right? Only if

WE ALWAYS USE PROTECTION

Opira GROUP









SANUVOX

Aluminium Parabolic Reflector – Maximum Efficiency & Protection

- Reflects UV light back onto the coils, maximising efficiency
- Protects AHU components from UV degradation
- Provides a 'blanket' warming effect for the lamp against wind chill, increasing UV output

An advanced aluminium parabolic reflector for efficiency, protection, and insulation.

Read more

1300 157 969 www.opira.com.au solutions@opira.com.au

the process begins by assigning responsibility to one person to:

1. Capture the objectives for scrutiny
2. Embed the requirements into the design
3. Defend the design till the project ends.

This article presents the author's approach to Stage One: assigning the role, identifying the post-disaster functions, and establishing performance targets.

Step 1 – Establish the post-disaster operational requirements

Hazards

The author has expanded McBean's procedure to enable stakeholders to address multiple natural hazards within the Special Study while also considering the subsequent Technological Hazards that may occur concurrently. The following table was produced for the Australian context and is based upon FEMA's (2018) 'Example threats and hazards by category' (CPG 201, 3rd Edition).

Stakeholder consultation provides an opportunity to establish and prioritise the relevant natural hazard events for the region by severity, with the design team on hand to bring forward other relevant NCC requirements or site-based considerations.

Technological Hazards will remain the responsibility of the Design Team. However, it is valuable to reinforce that these outages and continuity of services can occur with or without a natural hazard event (such as Portugal & Spain in May 2025).

Business Continuity under natural hazard disruption

It would be easy to say all hospital services remain the same during a natural hazard event, and why not?

- 'We have diesel + generators, and we can get more diesel' – *Is your diesel supplier's site built to IL4 with full resilience and redundancy? (think SLAs with Force Majeure clauses)*
- How long can the local sewer system operate during a flood or power outage?
- What is your HVAC's maximum operating temperature, and can the generators maintain full power loads under extreme heat?

Systems have limits, and anyone with disruption experience knows you protect your most precious systems to maintain the most critical of areas, so it pays to know what functions you need and when *post-disaster*.

Each health service is expected to have already established priority functions outlined in existing business continuity plans as Minimum Business Continuity Objectives (ISO 22301). With new facilities, these plans are yet to be established. However, the principles are not anticipated to differ greatly from those of other facilities, except that they will be adapted to the specifics of the new facility.

The author has found the following definitions valuable for categorising functions.

For verification, Critical functions are systems that should continue

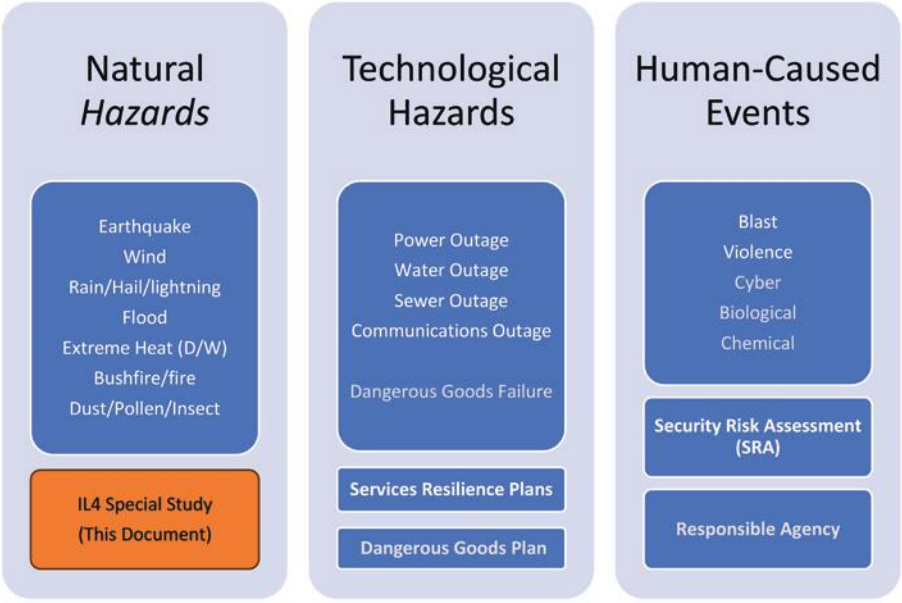


Figure 1 Hazard Classification (adapted from FEMA 2018 CPG 201, 3rd Edition)

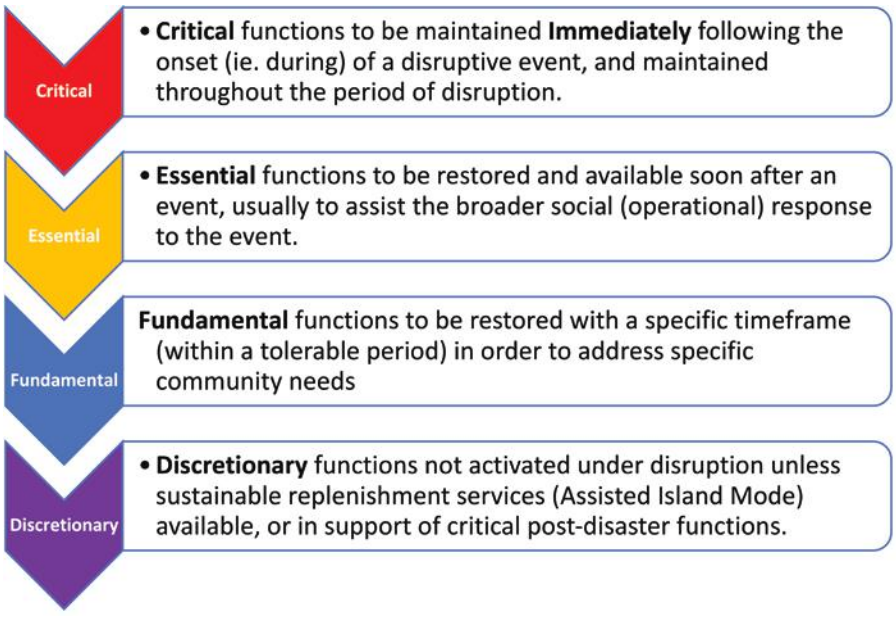


Figure 2 Minimum Business Continuity Objective (MBCO) categories and definitions

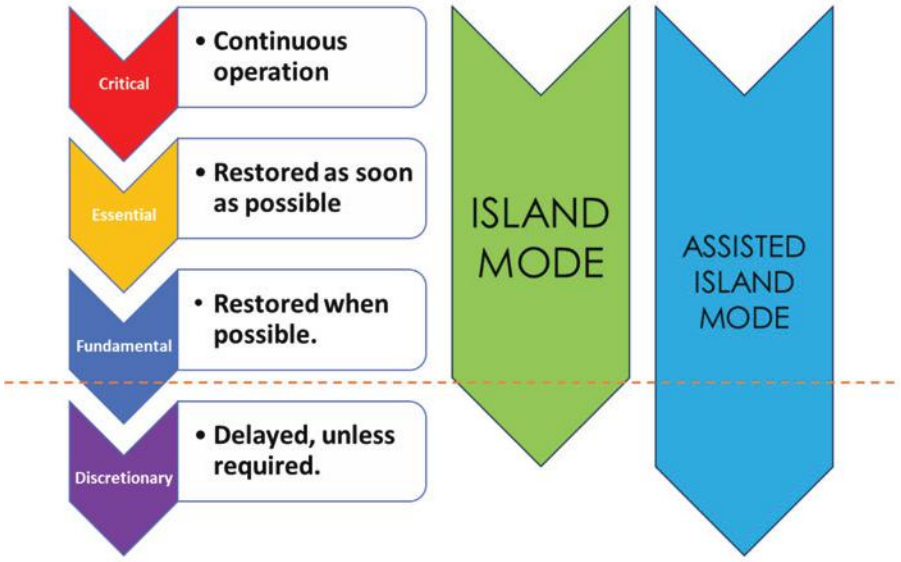


Figure 3 MBCO Categories, restoration objective and applicable resilience modes



regardless of whether a building is being evacuated, people require assistance, cleanup is required in areas, etc.

Essential functions are the post-disaster services that are required after an event occurs and disrupts normal operations.

Fundamental functions are those services that are time-critical to patients (such as renal dialysis). Although they can be delayed by hours or possibly a day, they must be re-established.

Time (Island Mode)

The clock ticks once a facility has any service outage (Technological Hazard), and it begins to isolate operations: Island Mode. An earthquake is generally the 'mother of all events' with anticipated disruptions of 1 to 3 months for water, sewer and power (Koschatzky *et al*, 2017). It's now time to rationalise those critical systems required to maintain life-sustaining systems and a safe environment for occupation, as well as to re-establish essential services, all while conserving the resources available to the facility.

Services replenishment depends heavily upon the region's resourcefulness. Farming areas are likely to have diesel stored, portable toilets for field workers, water trucks for minor irrigation, and sewer trucks for septic cleaning. Unfortunately, the demands of a major hospital will easily outstrip the local service providers.

It's challenging to capture the entire Step One in one article. However, it would pay to establish and agree upon realistic timelines through a timeline illustrating *Operations Under Disruption (as imagined):* it's a game the whole stakeholder team can play together (and generally quite entertaining).

Step 2 is going to translate all of this information into design outcomes through consideration of the NCC options to deliver engineered solutions, the holistic considerations for post-disaster function, and the cost implications for redundancy (of systems), resilience (protections), and capacity (resources)

In summary

A design team can address resilience with a sprinkling of solutions spread out throughout design documentation, only to have minor changes made throughout construction without holistic consideration for the post-disaster obligations of an Importance Level 4.

The IL4 Special Study provides an auditable pathway from the business case to design, construction, commissioning, and the 50-year operational life cycle. Step One provides the foundation for the business, unusually reducing vulnerabilities and strengthening the facility and its processes to maintain operations when the community needs them most.

For further expansion upon this topic, see the author's AEES paper: https://aees.org.au/wp-content/uploads/2024/11/35.-Jordan-Bartlett.pdf

References

FEMA (2018), Threat and Hazard Identification and Risk Assessment (THIRA) and Stakeholder Preparedness Review (SPR) Guide, Comprehensive Preparedness Guide (CPG) 201, 3rd edition, May 2018, US Department of Homeland Security, USA.

Koschatzky V, O'Brien J, Somerville P (2017) Earthquake Scenario, Melbourne, Bushfire and Natural Hazards CRC, https://www.bnhcrc.com.au/sites/default/files/managed/downloads/melbournetechnote_revised_final_0.pdf

McBean, P. (2021) AS1170.4 Special Study Requirements for Importance Level 4 Buildings and Facilities, Australian Earthquake Engineering Society 2021 Virtual Conference, Nov 25-26 (Online). https://aees.org.au/wp-content/uploads/2022/02/21-Peter-McBean.pdf



Managing Health Infrastructure Risk through Innovation and Technology

Healthcare infrastructure is increasingly complex, operating under constant pressure to deliver safe, reliable, and sustainable outcomes while managing risk across critical clinical and non-clinical environments. As health systems evolve, the ability to proactively identify, assess, and mitigate infrastructure risk has become inseparable from the intelligent use of innovation and technology.

Leading Edge Automation / Alerton Australia brings over 30 years of experience supporting healthcare organisations to manage this risk through advanced Building Management and Energy Management Systems. As the Australian delivery and support partner for Alerton, Leading Edge Automation combines deep local expertise with globally proven technology. Our approach recognises that resilient health infrastructure is not achieved through technology alone, but through the effective alignment of people, process, and systems, enabled by reliable, adaptable platforms.

A persistent challenge across healthcare facilities is alarm fatigue. Clinical and facilities teams are overwhelmed by the volume of alerts generated by disparate systems, often without the context required to act effectively. Hospitals do not lack alarms; they lack clarity. This challenge represents a significant infrastructure risk, where critical issues can be lost among non-actionable notifications.

Alerton technology, delivered and supported in Australia by Leading Edge Automation, addresses this challenge by aggregating data across multiple building, energy, and infrastructure systems to create a unified view of facility performance. Rather than simply generating alarms, the platform provides meaningful insight into system behaviour, identifying trends and conditions that indicate emerging risk. Alerts are contextualised and prioritised, enabling teams to respond faster and more effectively to issues that genuinely impact safety and operations.

At the core of this capability is technology designed for reliability and sustainability. Alerton platforms support mission-critical healthcare environments where uptime is essential. Systems are expandable and highly customisable, allowing health services to evolve their infrastructure in line with changing clinical demands, campus expansions, and sustainability targets. Open integration capabilities provide the flexibility to measure, analyse, and act on data from diverse sources across the hospital ecosystem.

A key differentiator of Leading Edge Automation / Alerton Australia is the strength of our local service and support function. Beyond deployment, we partner with healthcare organisations to continuously and gently improve performance on live sites. Through ongoing optimisation of Building Management and Energy Management Systems, facilities achieve faster response times, reduced downtime, improved asset reliability, and safer environments for patients, staff, and visitors.

Case studies across hospital campuses demonstrate that when innovation and technology are applied with clarity and purpose, infrastructure risk is not only managed, but measurably reduced.

LEADING EDGE AUTOMATION

ALERTON AUSTRALIA

The Global Burden of Antimicrobial Resistance and Healthcare-Associated Infections

As a healthcare professional, are you feeling the heavier weight on your shoulder to provide care, while also dealing with compressed budget constraints and overflowing operational demands? Across Australia, all healthcare facilities have now recognised that hygiene is the vital strategic value in the ongoing fight against healthcare-associated infections and antimicrobial resistance.

We all are, in fact, under the burden to be able to predict outbreaks before they happen. This requires a synergistic approach that combines human-operated precision with the efficiency of technology.

The Advantage of Precision Machinery

Certain cleaning tasks, especially in complex areas, require human-operated precision to achieve a 'deeper clean'. Think of patient bathrooms, high-touch surfaces in treatment rooms, or the fine grout lines in tiled areas — these places are notoriously difficult to clean properly.

This is where specialised machinery excels. For example, Duplex's Floorscrubbers use a unique contra-rotating brush technology to reach deep and remove embedded contaminants, which is vital for infection control in tight spaces like patient bathrooms and busy treatment rooms.

For detailed cleaning, Duplex's Jetsteam and Jetvac machines, powered by Tecnovap technology, are key. Effective steam cleaning machines should be reliable, effectively clean and disinfect high-touch points, sensitive equipment, and hard-to-reach crevices where traditional methods fail. This high-heat steam should effectively kill bacteria, viruses, and mould without harsh chemicals, which cuts chemical costs and makes the environment safer for patients, visitors, and staff. The industrial components ensure continuous, high-performance operation. In Jetvac models, the combination of high-heat cleaning and instant vacuuming leaves surfaces hygienically clean and dry quickly, which is critical for rapid room turnaround.

Smarter Staff, Smarter Systems

Of course, precision alone is not enough. Hospitals and aged care facilities are vast, and keeping them spotless is a never-ending challenge. Staff are stretched, and every extra hour spent pushing a mop is an hour not spent on patient care.

That's why many facilities are turning to robotic scrubbers from innovators like FloorBotics. These autonomous machines quietly cover long corridors, open foyers and waiting areas with clockwork efficiency. They don't get tired, they don't miss patches, and they provide consistent results shift after shift.

This isn't about replacing human workers — it's about freeing them. Instead of spending time on repetitive chores, cleaning teams can focus on the delicate, complex tasks that only people can handle. Staff satisfaction rises, burnout drops, and patients benefit from more attention.

Data That Works Harder

One of the under-appreciated benefits of robotics is information. These machines map their environments and report back with precise cleaning coverage. That means managers know exactly which areas were cleaned, when, and with what efficiency. For audits and compliance, that level of detail is gold. For continuous improvement, it's a game-changer.

A Synergistic Approach for Enhanced Care

A forward-thinking approach to healthcare hygiene combines the detailed precision of human-operated, high-performance machines like advanced scrubbers and powerful steam systems with the tireless efficiency of autonomous robotics. This integrated strategy creates a smarter, more cost-effective way to work. By embracing this approach, healthcare facilities can elevate care quality, not just in hygiene, but in all aspects of operational excellence, which directly helps in the fight against antimicrobial resistance.







SHIFT TO THE SUSTAINABLE HYGIENE

STEAMERS | FLOORSCRUBBERS | FLOORBOTICS

GET IN TOUCH WITH US TODAY



Future-proofing healthcare infrastructure

The role of data standardisation and the VBIS standard in digitisation

Nathan Semos

VIRTUAL BUILDINGS INFORMATION SYSTEMS

Introduction

As healthcare evolves in response to new technologies, demographic shifts, and increasing demands on infrastructure, the industry finds itself at a crossroad. While advanced tools and systems continue to emerge, the true cornerstone of healthcare transformation lies not in isolated innovation, but in the strategic use of data. The future of healthcare infrastructure depends on how well we manage, standardise, and apply data across the ecosystem.

Getting the basics right begins with accurate and accessible data—but the real challenge is ensuring its useful and consistent application across multiple systems and stakeholders. With digital transformation gaining momentum in healthcare, service providers can no longer afford to work in silos. This means data must be structured, standardised, and interoperable to retain its value throughout the healthcare value chain to ensure that it is not lost or even worse recreated.

This is where the Virtual Buildings Information System (VBIS) Asset Classification Standard (VBIS Standard) emerges as a vital tool for future-proofing healthcare infrastructure data.

In this article, we explore how the VBIS Standard plays a critical role in enabling digital transformation across healthcare facilities. From enhancing collaboration and streamlining asset management to improving decision-making for operations, VBIS Standard provides the framework necessary for long-term sustainability in healthcare infrastructure.

The Changing Landscape of Healthcare Infrastructure

Healthcare facilities are becoming more complex and technologically driven. From smart HVAC systems and energy-efficient designs to intelligent patient monitoring and robotic surgery,



the demands on infrastructure are constantly increasing. These advances require not just physical adaptability, but digital interoperability—making structured, high-quality data more important than ever.

However, many healthcare providers continue to operate with fragmented systems, legacy technologies, and siloed information. The lack of standardisation in asset data leads to inefficiencies, duplicated efforts, inaccurate reporting, and a disconnect between planning, design, construction, and facility management.

In this context, the concept of digital transformation goes beyond adopting new technologies. It demands an integrated, data-first approach to the way healthcare buildings are designed, built, operated, and maintained. This requires *open* standards that ensure seamless data exchange and future adaptability—cornerstones of any resilient healthcare system.

Why Standardised Data is Foundational

The power of data lies in how it's structured and shared. In healthcare infrastructure, standardised data enables:

- **Consistency**: A common language across stakeholders—from architects and engineers to facility managers and health administrators. It is important that information is simply not lost from design to operate.
- **Accuracy**: Reliable data leads to better design, aligning of construction/ operational data, to stop data waste
- **Efficiency**: Standardisation streamlines workflows, avoids duplication, and saves time to reduces unnecessary costs.
- **Adaptability**: With technology and regulatory environments changing rapidly, standardised data makes it easier to upgrade systems, link other data sets together and share information across an ecosystem.
- **Collaboration**: When everyone is working from the same data playbook, cross-disciplinary collaboration becomes seamless.

To achieve these outcomes, healthcare organisations need a structured approach that bridges technical, operational, and strategic domains. This is where the VBIS Asset Classification Standard plays a transformative role.

Introducing the VBIS Asset Classification Standard

The **Virtual Buildings Information System (VBIS)** Asset Classification Standard (VBIS Standard) is an asset classification system that provides standardisation for asset classification and data linking. This provides a unified framework for categorising and managing asset information in the built environment. Developed to enhance the usability and longevity of building data in the operating sector, the VBIS Standard is particularly suited for complex sectors like healthcare, where precision, compliance, and coordination are critical.

First developed in 2018 by Australian industry partners and grant funding from the Victorian Government the Virtual Buildings Information System is included in the Victorian Digital Asset Strategy, Queensland Government Customer and Digital Group guidelines, Queensland Corrective Services, the New South Wales Health Infrastructure Asset Data Policy, Victorian Health Building Authority Asset Information System amongst others and is referenced in the NATSPEC National Building Specification.

The VBIS Standard is a naming convention that has a consistent way of calling assets the same thing. There are over 10,000 tags across 36 disciplines including; fire protection systems, mechanical, refrigeration and air conditioning systems, electrical lighting and power systems, building management and control systems, audio visual equipment, information technology, kitchen equipment, medical gases, medical and laboratory equipment, security systems, vertical transportation systems, waste systems, parking systems, fuel and gas reticulation systems, vehicles, furniture, fittings and equipment to name a few

VBIS Standard is built on open standards and is designed to integrate across various stages of the asset lifecycle. The VBIS tags are freely available (https://vbis.com.au/) and exist for a wide range of sub-system and component asset types. Over 500 organisations have downloaded the VBIS tags from across the globe.

VBIS also have research partnerships with CSIRO and Brick Schema Standard, Real Estate Core

It is important that the granularity of a classification system supports the activities that manage the assets and achieve organisation objectives. The aim of asset classification is to provide a consistent structure to asset registers to allow clear identification, grouping and comparison. This consistency is essential to allow the accuracy needed for activities such as lifecycle planning, maintenance planning, performance benchmarking and contract management.

VBIS provides facilities and asset managers a consistent way to search, display, compare and interrogate key asset and maintenance information.

INOVA®

Serious Air Purifiers. Seriously Clean Air.



Clean Air, Safe Care: Why Filter Maintenance Matters

In today's healthcare environment, air quality is not a luxury — it's a critical component of infection control, patient recovery, and staff wellbeing.

With the increasing reliance on high-performance air purifiers like the INOVA range, healthcare facilities are investing in cleaner, safer indoor air. But investment alone is not enough. The key to unlocking the full benefits of your INOVA air purification system lies in one essential practice: regular filter maintenance.

Over time, HEPA filters become clogged with the very particles and pollutants they're designed to trap — viruses, bacteria, particles (ultrafine-large). When filters are neglected, airflow drops compromising both performance and patient safety.

Healthcare environments are dynamic, with varied occupancy, procedures, and environmental loads. This makes routine filter replacement and scheduled maintenance not just advisable — but essential.

INOVA systems, renowned for their Australian-engineered medical-grade filtration operate at their highest efficiency when well maintained.

We urge all facility managers, infection control officers, and clinical staff to check their filter maintenance schedules today.

A well-maintained air purifier contributes to:

- **Fewer airborne pathogens and reduced cross-infection risk**
- **Improved patient recovery times and comfort**
- **Better staff health, productivity, and morale**
- **Compliance with indoor air quality standards and audits**

Let's continue to raise the standard of care by staying vigilant, proactive, and committed to cleaner air.



Technostat Prefilter



H13 HEPA Filter

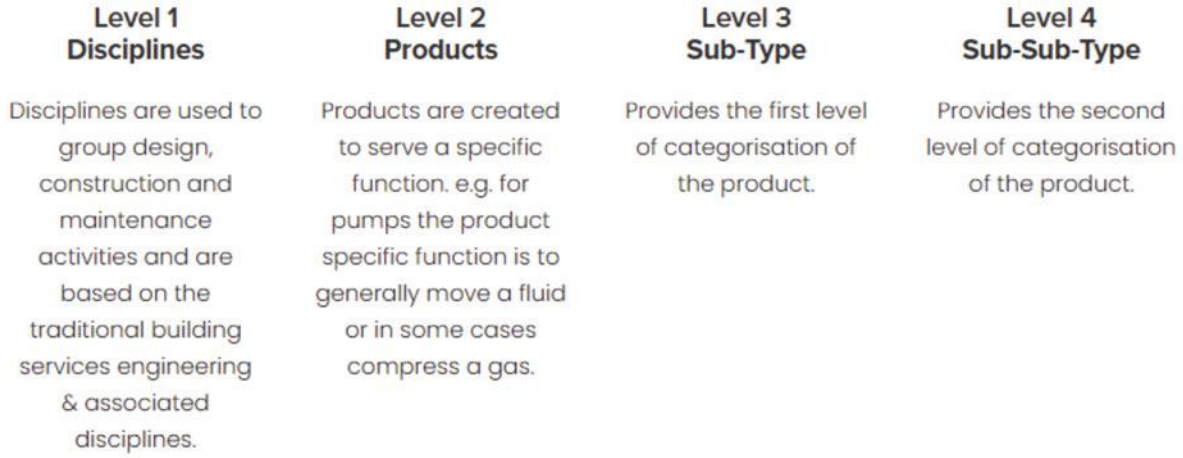
INOVA®

AUSTRALIAN MADE

For more information scan the QR code

1300 137 244

www.inovaairpurifiers.com.au/health



An example for a Mechanical Chiller is:
ME is Mechanical
ME-Chr is a Mechanical Chiller
ME-Chr-AC is Mechanical Chiller that is Air Cooled
ME-Chr-AC-Ce is a Mechanical Chiller that is Air Cooled and Centrifugal.

Figure 1

This approach makes it possible to integrate and compare information from a range of applications, including digital engineering, BIM, FM systems and Document systems.

Application in Building Information Models (BIM)

VBIS tags can be applied to digital deliverables as part of objects within 2D drawings and 3D building information models.

This is achieved by associating two properties or parameters (VBIS. Code & VBIS.Description) with the objects as part of the drawing or model authoring process. Leading 2D/3D authoring tools can easily accommodate this approach. A step by step guide is available on the VBIS website (https://vbis.com.au/).

With the VBIS Standard properties in place, they can then be leveraged in downstream workflows and technology platforms to realise smart VBIS outcomes.

Alignment to other data sets

The VBIS Standard aligns with other data sets such as the **Australasian Health Facility Guidelines (AusHFG)**, Uniclass and Omniclass codes making it especially relevant to healthcare facilities. VBIS Standard mapping to building services product tables and can be applied to existing databases to provide a standard structure without disrupting any existing categorisation.

Key Features of the VBIS Standard:

1. **Structured Asset Classification**: VBIS defines and categorises assets using a consistent taxonomy, making it easier to locate, interpret, and manage data.
2. **Data Interoperability**: Supports integration with Building Information Modeling (BIM), Computerized Maintenance Management Systems (CMMS), and other platforms.
3. **Open and Scalable**: Built on open standards to ensure longevity, adaptability, and vendor neutrality.
4. **Aligned with Industry Standards**: Works alongside and is complementary to Uniclass, Omniclass, AusHFG and other local and international guidelines to support compliance and best practice.

VBIS in Practice: From Design to Operation

1. **Design and Construction**

During early planning and design, VBIS Standard helps architects, engineers, designers and contractors align around clearly defined asset types and requirements. It ensures that everything from electrical systems to medical gases is labelled, grouped, and tracked consistently.

- Supports the connection of information for the creation of digital twins and BIM models
- Reduces errors caused by ambiguous asset labels
- Simplifies data handover at project completion

2. **Commissioning and Handover**

As systems are installed and tested, VBIS Standard ensures that asset data is captured consistently for future operations. This structured data supports a smoother transition from project to operations teams.

- Enables quick setup of maintenance schedules as the classification of

assets are already in the format that the maintenance industry can utilise
- Ensures complete documentation of installed systems. Connects information together wherever it may reside.
- Aligns with asset management system requirements and direct up[load into software systems

3. **Operations and Maintenance**

For facility managers, VBIS Standard enables intelligent maintenance planning, lifecycle tracking, and performance monitoring. Standardised asset data becomes a tool for strategic decision-making.

- Supports preventative and predictive maintenance
- Allows effective and consistent lifecycle management and reporting
- Reduces downtime and save management time
- Improves compliance reporting and auditability

4. **Upgrades, Refurbishment, and Decommissioning**

As assets age or facilities evolve, VBIS Standard allows teams to analyse asset performance, track replacements, and plan upgrades with confidence.

- Ensures continuity of asset records even when contractors changes
- Supports strategic capital investment decisions
- Facilitates technology integration

Integration with Other Standards and Systems

VBIS Standard is not intended to replace existing frameworks but to complement and enhance them. It aligns with a range of key standards, including:

- **Australasian Health Facility Guidelines (AusHFG):** Ensures that infrastructure planning and classification align with clinical and operational needs. This interoperability ensures that VBIS is not just a back-of-house tool, but an enabler of holistic digital health ecosystems. When asset data aligns with clinical data, spatial planning, and regulatory frameworks, healthcare organisations can truly harness the power of integrated infrastructure.
- **ISO 12006-2:2015**: Defines frameworks for built environment classification systems.
- **AS ISO 55000 Suite**: Focuses on asset management systems that deliver value from physical assets.

By aligning with these frameworks, VBIS helps ensure

SVA

Proudly celebrating our 20th year partnering with Healthcare Facilities Australia-wide.



Over the past two decades, SVA have been privileged to provide specialist sterilizing consultancy on some incredible projects, and to work alongside committed CSD managers and staff in delivering annual Performance Qualification testing.

Our congratulations to the heroes quietly driving excellence and innovation in healthcare.

SVA provide services across:

- Clinical area design and redesign
- Specification of dedicated services: mechanical, hydraulic & electrical
- Schedule of equipment/specifications for machines and specialised major FFE
- Sterilizing services amalgamation and centralization
- Clinical process auditing
- Capacity studies and planning
- Operating theatre workflow studies
- Surgical case load studies
- Instrument inventory & usage rates
- Service delivery model changes
- Clinical change strategies
- Clinical workflow optimisation
- Performance Qualification of equipment across Decontamination, Sterilization and Endoscopy

07 5575 8305 **www.sva.net.au** enquiries@sva.net.au
Director: Andy Gay

regulatory compliance, enhances the interoperability of systems, and supports broader digital transformation goals across government and private sectors.

Looking Ahead: VBIS as the Digital Foundation of Healthcare Infrastructure

The road to future-proofing healthcare infrastructure is paved with structured, interoperable, and intelligent data. The VBIS Asset Classification Standard provides the bedrock for this transformation.

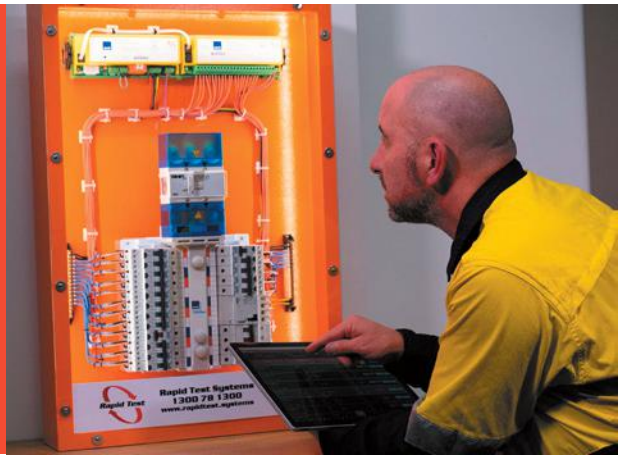
As the healthcare sector continues to digitise, the role of open, standards-based frameworks like VBIS will only grow more critical. Beyond hospitals and clinics, the principles of VBIS can be extended to aged care, mental health facilities, research institutions, and beyond—reinforcing its place as a cornerstone of digital health infrastructure.

Conclusion

In an era where healthcare systems face unprecedented demands, digital transformation is no longer optional—it's essential. But transformation must begin with the basics. That means getting data right. Through initiatives like the VBIS Asset Classification Standard, healthcare organisations can lay the groundwork for infrastructure that is smarter, more efficient, and ready for the future.

By embracing standardisation today, we can build the connected, resilient healthcare environments





Rapid Test Systems **Reducing the risk of ARC FLASH or ELECTROCUTION** when testing RCDs saving time & money. Rapid Test utilizes wireless technology to test your RCDs at the DB without removing the escutcheon, no need for working live. Installing Rapid Test into the switch board allows you to test power & lighting RCD's with the push of a button. All testing is time & date stamped with retest and failure notifications available for easy site compliance management. Data is then uploaded from tablet/mobile to an Asset Portal helping manage your compliance worries with a few mouse clicks.

Seamless management of your RCD / Safety Switch compliance testing through wireless technology.

Half your labour costs and improved safety makes Rapid Test a logical choice.

Rapid Test

CALL US
1300 78 1300

EMAIL US
info@rapidtestsystems.com.au

www.rapidtestsystems.com.au

AUSTRALIAN DESIGNED
AUSTRALIAN MANUFACTURED

Speak to your local NHP rep
or electrical wholesaler

NHP

HI-PURITY
MEDICAL GAS SERVICES



Hi-Purity delivers installation, maintenance, and engineering support for medical gas systems across Western Australia.

We ensure compliance to AS2896-2021, trusted by WA's leading hospitals, day surgeries, and universities.

AS2896-2021 COMPLIANT

- Medical & Laboratory Gas Installation
- Testing & Commissioning to AS2896-2021
- Engineering Support
- Tool Air
- Gas Manifolds
- Gas Alarm Monitoring
- Medical Gas Outlets
- Medical Suction/Compressed Air Plant

CONTACT US 0423 426 399 info@hipurity.com.au hipurity.com.au



Meet the high-performance blower range built with the same legendary DNA as the compressors you already trust - SIGMA rotary screw, PillAerator turbo and OMEGA rotary lobe blowers.

Drive your efficiency to new heights with KAESER's plug-n-play blower solutions, engineered to the highest standards. Whether you are moving materials pneumatically, treating wastewater or supplying process air, KAESER's German-made range and predictive Sigma Air Manager 4.0 integrates seamlessly. Followed up with nation-wide service and factory-trained technicians, at KAESER, we have your back.

au.kaeser.com



The Sigma Air Manager 4.0 not only monitors and controls all components of a blower station with maximum efficiency, but also provides full Industry 4.0 capability.

Silent Partners in Patient Care:
How Low-Pressure Air is Revolutionising Hospital Infrastructure

As the Australian healthcare sector accelerates its transition toward Net Zero emissions, facility managers and hospital engineers are increasingly scrutinising the "hidden utilities" that power their campuses. While medical air compressors are well-understood, a new generation of low-pressure blower technology is emerging as a critical driver of energy efficiency and hygiene in modern hospital engineering. Kaeser Compressors, a long-time partner to Australian industry, is now deploying its advanced rotary screw and lobe blower technology to meet the stringent demands of the hospital and healthcare community.

Unlike high-pressure medical air used for breathing and surgical tools, low-pressure "process air" is the workhorse behind the scenes, powering logistics, waste management, and water treatment systems that must run continuously without failure. According to Kaeser Australia, the shift involves developing blower technology to meet the silence and sterility required by an ICU ward. In a hospital environment, a mechanical failure isn't just downtime; it represents a tangible clinical risk, necessitating equipment that offers absolute resilience.

One of the most critical applications for this technology is within Pneumatic Tube Systems (PTS), the veins of any major hospital that move pathology samples and pharmaceuticals between wards and labs. Kaeser's rotary lobe blowers provide the instant-response motive force required to transport delicate blood samples smoothly, preventing the hemolysis often caused by jerky movements in older systems. Furthermore, modern facilities are increasingly adopting Automated Waste Collection Systems (AWCS), utilising large blowers to suck laundry and waste through underground pipes to a central collection point. This innovation removes infectious materials from corridors and elevators, significantly improving infection control and patient hygiene.

Beyond logistics, remote and large-scale regional hospitals are utilising these systems to manage their own effluent, reducing the burden on municipal grids. Rotary screw blowers are being deployed to aerate wastewater treatment tanks, offering significant energy savings compared to traditional fans and directly contributing to a facility's sustainability targets. These machines are engineered specifically for the clinical environment, featuring integrated sound enclosures and pulsation dampeners that ensure operation remains whisper-quiet, compatible with residential zones and quiet hospital courtyards.

To support the complex needs of healthcare engineers, these systems are designed with oil-free compression to ensure air purity and are fully integrated with Industry 4.0 technology. Through systems like the Sigma Air Manager 4.0, engineering managers can monitor blower health remotely and predict maintenance needs before they impact hospital operations; it also enables sophisticated energy management per ISO 50001.

Kaeser Compressors continues to support Australian healthcare facilities in building infrastructure that is not only robust but environmentally responsible. https://au.kaeser.com

Plantroom Services Australia

PO Box 964
Liverpool BC
NSW 1871
Ph: 1300 009 632
Fax: (02) 9821 3841
Email: info@plantroomservices.com.au
Web: www.plantroomservices.com.au

- Vilair-AAF distributor of AQ ESP's
- Affiliated member of industry bodies for over 30 years



Plantroom Services (Aus) is experienced in all aspects of HVAC. Specialising in filter upgrades and a leader in remedial maintenance focusing on the end user. Our business also compliments and works cohesively with mechanical contractors forging alliances and partnerships.

Our services include:

- Comprehensive range of air filters
- Air filtration profiling, clear and concise reporting eliminating ambiguity
- Sales, service & installation
- ESP sales
- ESP servicing/repairs system servicing
- HVAC fabrication
- HVAC remedial maintenance
- Removal of obsolete/redundant equipment

With filtration industry experience since 1981, Plantroom Services was established in 1997. Plantroom Services has since forged an outstanding reputation by understanding industry protocols and providing professional, reliable, cost-effective service.

Plantroom Services also complies with WHS regulations and environmental standards with a strong emphasis on recycling.

The ultimate measure of our success is to receive endorsement from clients who advocate our services.

We are happy to offer our qualified recommendations obligation free.

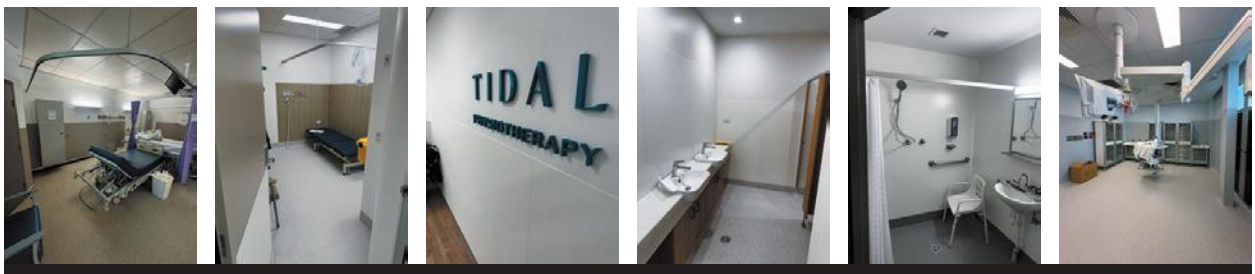
For more information, email: info@plantroomservices.com.au

ROOTEX
AUSTRALIA PTY LTD

Rootex Australia Pty Ltd specialises in high-performance wall protection solutions designed for demanding environments. We help protect walls, doors and interiors from daily impact, wear and hygiene risks—without compromising on design.

Our flagship products, Gerflor SPM Decochoc and Decoclean, combine durability with style. Decochoc offers heavy-duty impact resistance ideal for hospitals, aged care, education and commercial spaces, while Decoclean provides a seamless, hygienic wall finish that's easy to clean and built to last. Both systems are engineered to reduce maintenance costs, extend the life of interiors and keep spaces looking better for longer.

At Rootex, we work closely with builders, architects and facility managers to deliver tailored solutions that meet Australian standards and real-world demands. From new builds to refurbishments, we provide wall protection that performs where it matters most.



Protect your walls. Preserve your spaces. Trust Rootex.

Rootex.com.au



Day Surgeries

Current and Future Infrastructure Challenges

Sandy Thomson

Day Surgeries are an integral component of the Australian health system providing surgical, diagnostic, and medical care. They can be located within large public and private acute hospitals or as a standalone facility which now number 357 across Australia. Approximately 60% of all acute surgical procedures are now performed in day hospitals, with some specialties such as Ophthalmology reaching nearly 90%.

Whilst on one hand significant advances in surgical techniques is enabling more complex procedures to be undertaken in day surgeries the other side to this picture is increasing regulatory requirements including accreditation both of which focus on the building infrastructure and the safety of clinical services (which relies on well-maintained infrastructure), along with ensuring health fund reimbursements contribute to financial sustainability. Hospital facility maintenance typically consumes a significant portion of the overall budget, generally ranging from 2% to 5% of the total facility's Replacement Asset Value (RAV). However, this can vary depending on factors like hospital size, age of equipment, and specific maintenance strategies.

With increased costs and challenges the flow on effect is often delayed infrastructure expenditure and or failure to maintain a facility to current Australian standards. In addition, health fund challenges means that many surgeons are losing access to theatres resulting in increased interest in building their own facility.

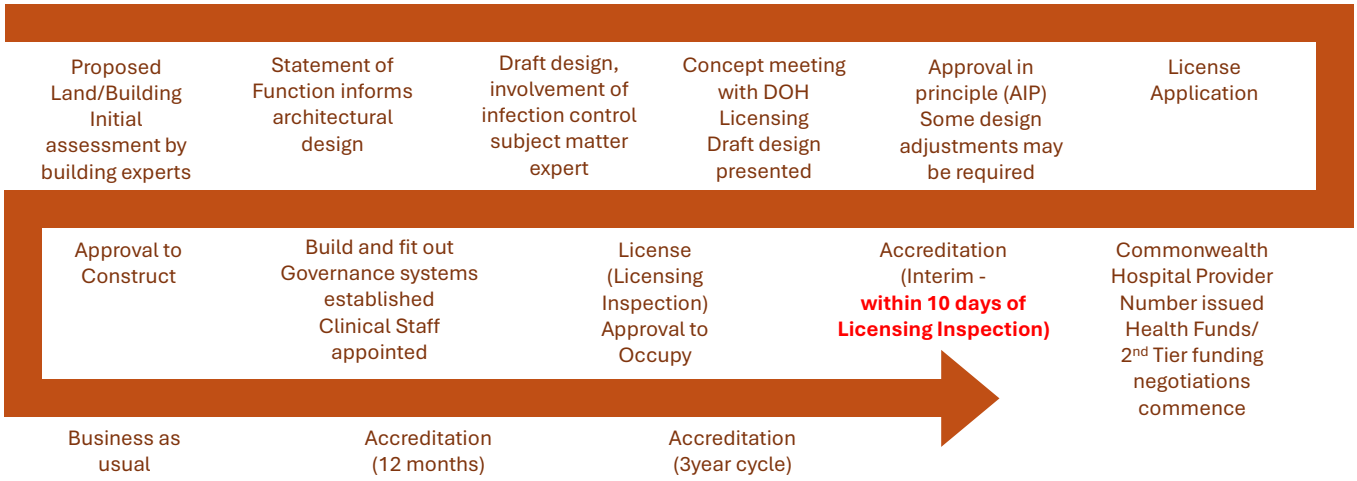
As indicated and despite comprehensive maintenance many of our aging facilities no longer meet health facility guidelines. State licensing regulations such as the Australian standards for the reprocessing of reusable medical devices used for surgery (AS 5369: 2023) or accreditation standards are significantly impacting cost, time and resources for Day Surgeries to remain compliant.

For existing owners, the facility may not be able to be sold as a hospital unless it has been upgraded to current standards.

These issues for existing facilities are particularly being reflected in the hospital accreditation action NSQHSS action 1.29 (relating to facilities management) which is now being routinely seen in the top 10 Not Met and Met with Recommendation ranking both of which now carry a 60-day remediation period. For some, remediation within required timeframes can be difficult to achieve especially if this involves upgrades.

These regulatory requirements are also forcing facilities to either plan and fund for upgrades, close or rebuild.

Day Hospital New Build Process Map



This process is not for the faint hearted, but requires an understanding of costs, timelines and a strong project management approach including use of experienced building designers, architects, regulatory compliance and infection control subject matter experts. To ensure parties understand the risks GovernancePlus has developed for new facilities a process map to assist with improving understanding of all facets of a new day hospital build.



Common pitfalls for new operators are;

- Pre-purchase of a property or land without understanding size and patient flow requirements
- Not having a clear model of care or a function statement which details the vision, mission of the facility, types of patients to be cared for, types of procedures being considered.
- Not considering any Council requirements such as rezoning
- Thinking that a Class 5 building which is being used as a medical centre can be easily converted to a Class 9a.
- Not engaging an infection control subject matter expert.
- Not understanding the accreditation costs, and maintenance of accreditation.
- Not understanding the requirements for health fund contracts.

Common pitfalls for existing facilities.

- That renovation costs may not be just linked to a single area as once works commence areas such as capacity of electrical supply, space for RO water systems etc, need to be considered.
- Any flow on effect requires services to be upgraded to current Australian standards.
- The facility may still not be able to be sold as a day hospital if other areas are still not to current standards.
- Accessing other theatre sessions in other facilities while works are in progress.

Like all risk management strategies adopting an approach which covers all aspects of a new build or refurbishment can mitigate unnecessary costs and challenges.

Compact RO.
Big impact.



Meet AS5369:2023 standards without sacrificing space with the PuROtherm MICRO.

Space-Saving Compliance
Meets AS5369:2023 water quality standards, without needing a plant room.

Quiet, Reliable Operation
Near-silent system keeps the sterilising area productive and comfortable.

Low-Maintenance Hygiene
Automatic thermal disinfection >80°C reduces manual tasks and risk.

Always Ready for Peak Demand
Stable, high-quality water flow, even during your busiest cycles.

Plug & Play Simplicity
Fast install, intuitive touchscreen control, and easy data validation.

Purpose-Built for Facilities Like Yours
Engineered for day hospitals, dental clinics, and small CSSDs where footprint, compliance, and uptime matter.

Watch the PuROtherm MICRO in action.

southland FILTRATION

HEALTHCARE WATER FILTRATION
Custom Solutions • Quality Products • Service & Maintenance
1800 656 771 | southlandfiltration.com.au

COVARIS

Asset Management Planner

Condition Based Data-Driven Approach



Stage 1

Develop Asset Register



Stage 2

Develop Maintenance Strategy



Stage 3

Develop Asset Maintenance Plan



Stage 4

Data Upload Into Information System



Stage 5

Develop Asset Management Plan, CapEx/OpEx

webcontact@covaris.com.au





GalvinAssist® High-Contrast Tapware for Safer Spaces



High-colour-contrast tapware plays a practical role in improving visibility and operational clarity in environments where users may have reduced or variable vision. The lead-free GalvinAssist® Lever and Cross Wall Top Assemblies incorporate red and blue colour indicators that provide clear differentiation between hot and cold water. This supports accurate operation in settings such as healthcare, aged care, disability accommodation, and public facilities where compliance with accessibility guidelines is required.

The assemblies are manufactured from Lead Safe™ DZR brass containing less than 0.25% lead content, meeting WaterMark certification requirements and supporting potable water safety. Both models feature durable ceramic disc technology: the Lever version provides a ¼-turn mechanism designed for low-resistance operation, while the Cross version offers a ¾-turn configuration suitable for users who prefer a more traditional handle.

High-contrast markings, combined with defined turning mechanisms, enable consistent performance across a wide range of installation types, including basins and sinks. The products are designed to complement accessibility provisions outlined in AS 1428.1 and other relevant building and plumbing standards.

With corrosion-resistant materials, serviceable internal components, and a chrome-plated finish engineered for longevity, the GalvinAssist® High-Contrast range offers a specification-ready solution for projects requiring durable, compliant, and visually distinct tapware.

https://www.galvinengineering.com.au/high-contrast-tapware



Accurate and consistent disinfection is essential to protecting public health—especially in hospitals and aged-care communities, where water-borne pathogens like Legionella can pose serious risks. While municipal supplies are treated, many facilities still need reliable top-up disinfection to maintain safe free available chlorine (FAC) across the entire distribution network.

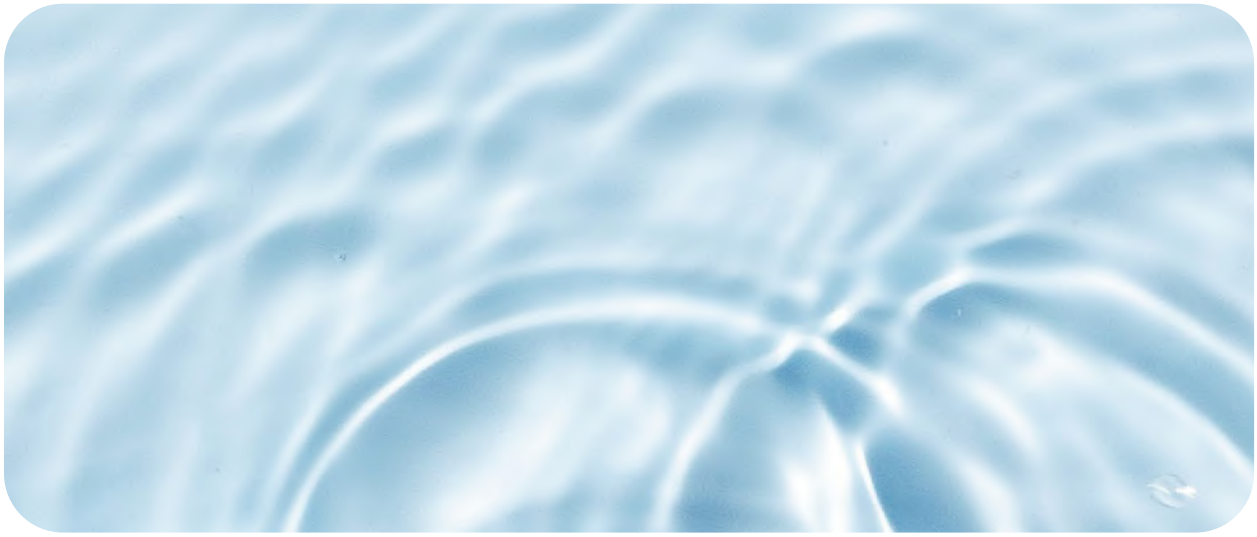
Developed by Aquarius Technologies—an Australian-owned manufacturer with 36+ years' experience—UCARE is a compact, high-accuracy inline chlorination solution designed specifically for community potable and warm-water systems. Unlike traditional tank-based dosing, UCARE injects chlorine directly into the delivery pipeline and modulates dosing in real time based on water flow and FAC deficit. A precision solenoid-driven metering pump delivers smooth, high-frequency dosing to avoid concentration spikes, while German-made amperometric FAC measurement and downstream safety sensing help prevent overdosing.



Controlled by the ULTIMA platform, UCARE trends data, integrates with BMS/SCADA, and supports Wi-Fi, Ethernet or 4G telemetry. Proven across hospitals and aged care, UCARE delivers tight chlorine control, optimised chemical usage, and simpler, safer infrastructure.

Visit aquariustech.com.au

HydroChem



HIGH RISK WATER SYSTEMS









- CSSD AS/NZS 4187
- Legionella
- Risk Management
- TMVs
- Disinfection Systems
- Cooling Towers
- Boilers

WE CARE ABOUT YOUR WATER

Australian owned and operated for almost 50 years

hydrochem.com.au