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Editor's Message

RECENTLY MY WIFE and I had the pleasure of cruising around the South Pacific Islands. I know I know it is a tough life but someone has to do it! During the flight to Sydney, on board QANTAS' magnificent 787-9 Dreamliner, 11,000 metres above the Australian outback, I had the opportunity to reflect that I, together with the other passengers, have actually placed the safety and well being of our greatest asset (our continuing existence) into the hands of complete strangers. We all do this day in and day out without giving it a second thought … Correct! Then I got to thinking about those who sit up at the pointy end and when they press buttons, flick switches or move levers, they expect something to happen, because if it doesn't, then something much less desirable may result. They are in command of a thing that is constructed from many thousands of components, each working together in a symphony of actions necessary to keep the passengers and crew safe. Do not get me wrong, the highly trained and competent QANTAS flight crew do an excellent job but hardly anyone gives a thought about the thousands of people who reside in the back of the many aviation houses, each tasked with the responsibility of ensuring that when something is supposed to happen, it does. Did you know that this scenario is very similar in health?

In health, we have patients who also place within our hands, their most precious asset, their health and well being. Sometimes coming to our facilities is their last option. Those at the pointy end, our highly trained and dedicated clinical staff, work tirelessly and with passion to deliver the best clinical care they can provide. Yet they too require safe buildings, systems and equipment that work and respond as expected and on demand. Sometimes that demand can be life critical. Yet behind the many closed "Staff Only" doors there is another world. A world where thousands of people administer the logistics, cook the food, clean and make up the rooms, repair and maintain the very buildings, systems and equipment our front line team need to ensure our patients receive the care necessary to return them to best well being possible.

It is easy to miss or ignore those who are by definition not in plain sight, yet having worked behind those closed doors for many decades, I can honestly say that I have witnessed the same high level of passion, skill and dedication behind the scenes as is evident to the public eye. It doesn't matter what each person is tasked to perform, they all act as if they are performing the task for the benefit of their loved ones.

Whatever the circumstance, the next time you are sitting in an aircraft, in a hospital ward room or even an emergency department, take a moment or two to look around and ponder just how many people hold your safety and well being in their hands. You may be surprised just how many you will find.

With respect and kindness
Frederick Foley – Editor

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National President's Message

THIS QUARTER HAS brought further important developments across healthcare and aged care, with direct interest and relevance to our roles as facility leaders and professionals.

Recently I had the opportunity to take a guided tour of a new, cutting edge aged care facility in Canberra. The development is being built in 3 stages, with Stage 1 complete, Stage 2 almost ready for commissioning, and Stage 3 still in the ground. Ultimately the facility will boast around 350 villas and apartment-style residences, but what I found most impressive was the philosophy that residents could move into a villa or apartment and keep that same home through to end of life. As their health or needs change, they can receive low, medium or high care services right and even palliative care from the same villa or apartment they moved into at the beginning. This flexible care model adapts as people age, which reduces disruption, upheaval and poor health outcomes for residents.

This 'residents-first' philosophy is somewhat reflected in the new aged care reforms which come into play from 1 November 2025. These reforms include a more flexible, simplified model for the Support at Home program and changes to the Aged Care Act 2024 to strengthen the rights of older Australians and improve the accountability of service providers. The government has also committed to new investment in infrastructure such as a new $50 million 90-bed aged care facility in Broken Hill.

In healthcare, the Federal Government's budget for this financial year includes a $644 million investment to establish 50 additional Medicare Urgent Care Clinics nationwide. Once complete, the government hopes that these centres will give four in five Australians access to bulk-billed urgent care within a 20-minute drive which they hope will relieve the pressure on emergency departments that many of us feel, either in our personal or professional lives.

The Commonwealth contribution to public hospitals has also been increased to 12% in 2025-26, with this additional funding targeted at reducing waiting lists, easing ambulance ramping, and improving emergency performance. What this funding actually translates to in terms of infrastructure improvements is yet to be seen.

Our industry continues to be on everyone's lips and greater investment brings greater scrutiny on efficiency, sustainability and value for money, making the dollar go further and work harder in an already stretched system.

Thank you for your commitment to keeping the lights on, rooms conditioned, and the water pure!

All the best,
Michael Scerri

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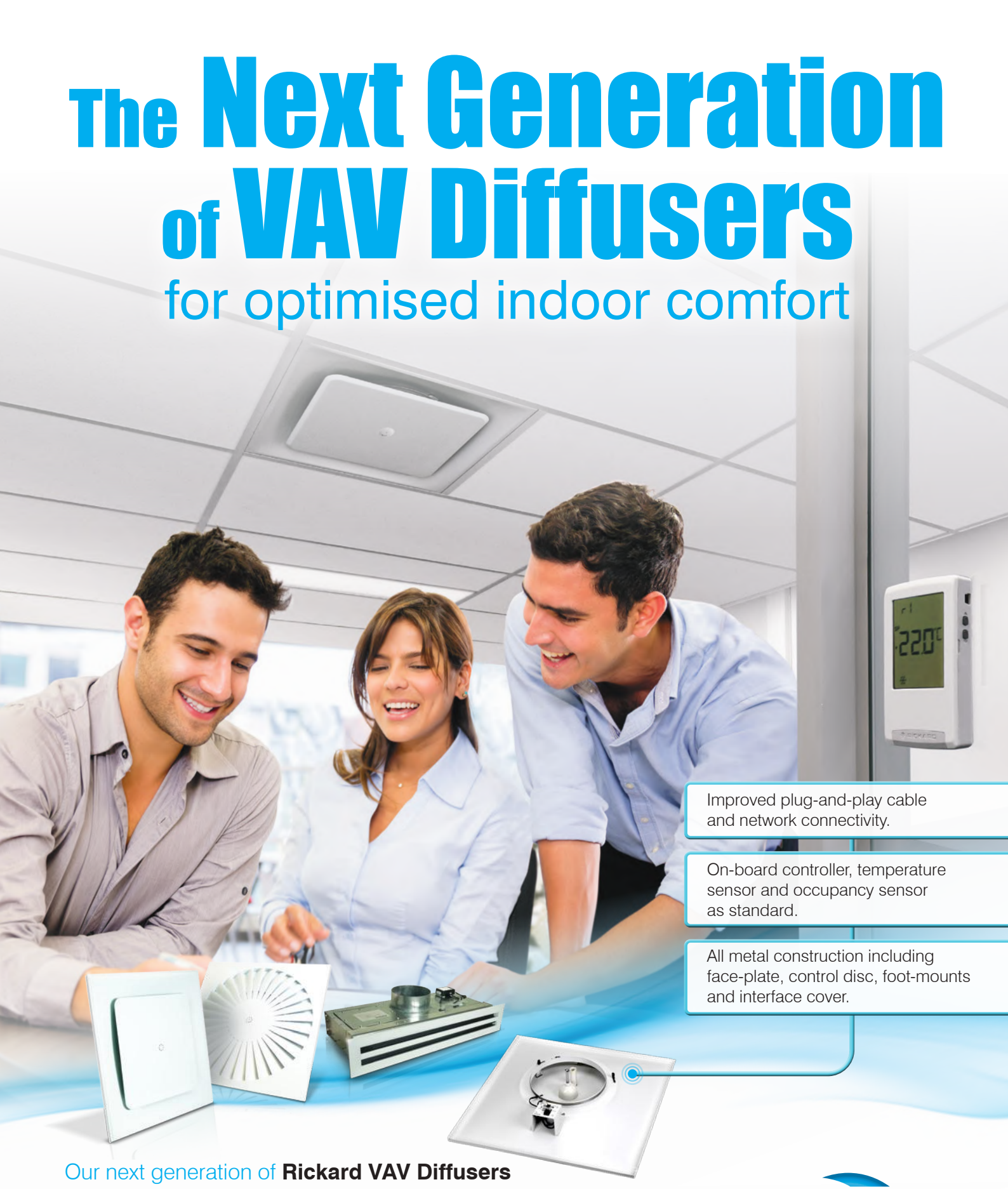

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South Australia/Northern Territory

OUR BRANCH HAD the immense privilege to take a very special walk through of the brand new, yet to be formally revealed SA Ambulance Service Emergency Operations Centre (EOC). Constructed by builder Hansen Yuncken, the project features a 6,700 m^2 two-storey facility, alongside a 1,500 m^2 Adelaide ambulance station and garage on the city outskirts in Mile End. The facility also comprises a State Health Coordination Centre which provides continuous oversight of patient transfers and hospital capacity within the healthcare system.

The facility is a true Importance Level 4 post-disaster building, and our members were very interested to hear how this rating had been engineered throughout the facility – from the largest elements to the smallest.

The on-site ambulance station houses two new 24/7 emergency crews, totalling 32 paramedics, equipped with four new ambulances, plus additional paramedics and fleet relocated from a nearby ambulance station.

The new headquarters provide a secure home for 24/7 operations and more than 143 staff, including integrated Triple Zero emergency call and dispatch capabilities, and other clinical telehealth specialist roles.

A small group caught up for drinks afterwards to socialise and discuss the tour.

Our thanks to SA Health, SA Ambulance Service, Department for Infrastructure and Transport, and Hansen Yunken for facilitating this visit.

The next event hosted by our branch and Architects *ARCH* will take on a national mantle, being broadcast as a *lunch and learn* for those not here in Adelaide, and also internationally. We're very much looking forward to learning more about mental healthcare design and innovations.

All the best,
Michael Scerri

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New South Wales/ACT

WELCOME ALL AGAIN to the Spring addition of the IHEA Journal for 2025.

I am very pleased to see that the IHEA is going from strength to strength across Australia.

Watching and reading all the news, there is plenty of information and events being shared so there is no better time to be a member and getting involved. I do enjoy keeping up with all the new technology and products that are being showcased and also hearing about the different solutions being put forward in our industry.

As spring has arrived, we can start thawing out and especially for the east coast of Oz, which has been pretty much a very wet and damp year so far. This is a good reminder that we need to keep up with the preventive maintenance and checking all the plant, especially our HVAC, changing out filters, inspecting and replacing fan belts, identifying leaks, puddles and most importantly, seeing if mould has not started to build up and thrive in these areas.

Check out the cooling towers as per the Statutory requirements. Do complete visual, electrical and chemical inspections of the whole plant from top to bottom and report any findings back. Summer is not far away and these units will be back to full capacity before you know it. Better to know any problems now instead of in the heat of summer and they fail.

Great opportunity to get the younger team members to come along on the inspections and maintenance checks to explain how the systems work, why are we doing this and also how to sort out any issues we find. Maybe even try and get the bean counters to come along and give them a bit of a tour to show them what state the system is in.

Another item we always tend to forget about are your Power factor correction units. They sit in the back corner of your main switch board rooms and most people do not understand their importance.

Power factor correction works by adding capacitors to an electrical system to counteract the reactive power drawn by inductive loads, such as motors and transformers. These capacitors store energy and release it, providing the necessary magnetic field for inductive components and cancelling out the lagging reactive power. By doing so, they bring the system's power factor (the ratio of real power to apparent power) closer to the ideal value of 1.0, reducing waste, saving on electricity bills, and improving overall system efficiency.

Lets explain this in beer

Power factor correction is explained by the analogy of a beer mug, where the liquid beer (real power or kW) is the power that does useful work, the frothy head (reactive power or kVAR) is non-working power, and the total contents (apparent power or kVA) is the total power delivered. A low power factor, like a mug with lots of foam, indicates inefficiency, as you're paying for foam you can't use. Power factor correction involves adding components like capacitors to supply reactive power, which reduces the foam (kVAR). This increases the liquid beer (kW) relative to the total contents (kVA), improving the power factor and reducing electricity costs by lowering demand charges based on kVA.

So what we are trying to say is to save on your energy costs and have pay back over a couple of years, keep your PF units maintained or replace them if they are over 10-15 years old. I know many of you would be truly upset if the barman kept on serving a frothy head every time you went to the bar. Maybe show this to your bean counters and show them the saving that will happen. There might be a beer in it for you with all those savings.

Professional Development Day Nov 14th 2025 – RPA Hospital

"Delivering Major Medical Infrastructure" and "Constructing the Digital Operating Room"

- Installation of Large Medical Equipment in Hospitals – including power requirements, lead lining, delivery methods, HVAC systems and controls
- Innovations in Digital Operating Rooms.

We are excited to say we are teaming up with The Society for Medical and Biological Engineering NSW to bring the day together at RPA Hospital.

The Society for Medical and Biological Engineering NSW Inc (SMBE NSW) was founded in 1966 to advance the cause of Biomedical Engineering in New South Wales.

Over the course of its history, SMBE NSW has become one of the largest Biomedical and Clinical Engineering organisations in Australia. SMBE NSW comprises biomedical engineers, technicians, managers and sales and service personnel from hospitals, service organisations and a wide range of medical equipment manufacturers and suppliers. Members come from not only NSW but many other states and territories of Australia.

The SMBE NSW Country Technicians' Training Seminar and Conference is the main vehicle for networking and dissemination of knowledge on new equipment, technology and procedures. Annual seminars began in 1989 to bring much needed training and networking opportunities to the technicians working in regional and remote NSW. Now they are well attended by city and country engineers and technicians across Australia.

The day will be broken into 2 parts.

Discussion will be held on power requirements for the equipment and the challengers we face with the new standards.

How to physically install and remove such equipment into the heart of the hospital and what different methods are employed to carry out the tasks.

Building services required for the theatre, including lead lining, radiation protection, and structural systems for the equipment.

Installation of HVAC systems, Hepa filters and controls required.

The second part will be the requirements for a digital theatre and what innovations are available.

Medical pendants and what is involved. Digital systems, including monitoring, life support and educational purposes.

After the seminar we will be heading to Darling Harbour for 4.30 pm to have a networking function on Sydney Harbour for 4 hours to catch up with other members from the IHEA and SMBE.

Make sure you get in early as this will sell out quickly.

Hope to see you there.

Cameron Ivers
President – NSW/ACT Branch

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Queensland

SPRING HAS SPRUNG! A quick Google search tells me that I have just used an idiom, a play on words and an alliteration - I was thinking myself very clever until I discovered it is also a popular expression. Feeling a bit deflated, I am left wondering about the many online information tools we literally have at our fingertips and how they can make our professional lives both much easier but also much more complex, especially when faced with a deluge of information and question marks over its veracity (I am sure I just invented the saying).

AI in particular is an emerging tool and is increasingly a topic at our conferences and PDs - this reflects the reliance of health engineering on information to inform decisions, whether it be expert opinion, standards, shared experience or best practice. AI is another tool in our arsenal that we are only just beginning to grapple with.

On another note, the Queensland committee has had a short respite after our successful midyear conference with planning well under way for the 2026 National Conference, PDs and social events.

Midyear Conference, 31 July 2025 - "Intelligent Asset Management – Innovation, Prioritisation, Optimisation"

The midyear conference in July was highly successful with increased attendance numbers - approximately 191 individuals attending either as delegates (approximately 150 registered) and sponsors (approximately an additional 40 persons from 25 sponsors). The first session at a rough count had 100 delegates "filling" the lecture theatre. We were again at the Brisbane Convention and Exhibition Centre but at a new function space – this did come at an additional cost, but the change in space was well received by both sponsors and delegates alike.

A special thanks to our major sponsors (Schneider Electric, Polar Enviro), networking sponsor (Tarkett Australia Pty Ltd), Coffee Cart sponsor (Velocity Energy), name badge sponsor (Opira Group) and our minor sponsors. They, along with our speakers and delegates, helped make the event the success it was. With so many sponsors, their displays were a fantastic opportunity to explore options for solving problems and issues faced at our facilities.

Miller Guirguis opened the conference with his presentation on the Queensland Government's Hospital Infrastructure Rescue Plan – a topic of particular interest to both sponsors and Queensland Health delegates alike. Professor Mauren Hassal from the University of Queensland shared on "Leveraging AI to manage asset integrity and reliability risks" – an important reminder of the need for tools to help us analyze and interpret the vast amount of asset information we collect. FAMASO also grabbed our attention in a drone cleaning demonstration on the facade of the convention centre – the effort of getting the required approval was worth it in the end!!

Another change we made this year was donating our budget for speakers' gifts to the Children's Hospital Foundation that helps to provide life-saving care, research and support for ill children and their families. Thank you to everybody that took the opportunity to donate along with IHEA.

Everybody enjoyed the food, drinks, and networking. After the tradeshow at the end of the plenary session, a group of about twenty adjourned to the nearby Pig and Whistle at West End.

National Conference, SeaWorld 4-6 March 2026

Planning for the 2026 National Conference at the Sea World Resort Conference Centre is well underway. Please save the date in your diaries and keep an eye out for the information as it comes out and the opening of registrations in October. Make sure to let your boss know that you will not be too distracted by all the planned activities.

The theme for the conference is Managing Health Infrastructure Risk - Innovation, People, Process and Technology. Anyone want to wager a bet that AI will be a topic?

Special thanks to Iceberg with their assistance and for Linda Jordinson heading up the subcommittee planning the event.

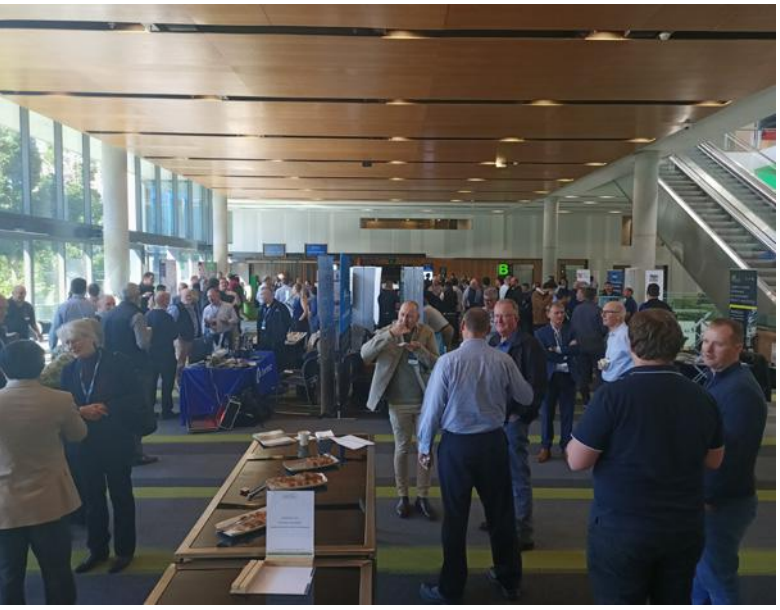
11 September and 13 November PDs

As I draft this report, a joint PD with FMA has been organised for 11 September at Schneider's Brisbane office. Thank you for Schneider for hosting us and I look forward to sharing about the event in my next report.

The final activity for the 2026 calendar is planned for Thursday 13 November at the Pineapple Hotel in Kangaroo Point – usual time and place. We will be having the usual networking event immediately after the presentations and, in keeping with the Christmas season, we will also be having a Christmas dinner immediately after at a venue TBC. Please keep an eye out for details and opening of registration in the coming weeks.

2026 Joint NSW and Qld Golf Day

Planning is still to commence for the combined golf day with NSW in 2026.



Committee of Management (COM)

The Qld COM for 2026-27 was confirmed at the Annual Special Meeting held at the Queensland Midyear Conference. The only change is that Linda Jordinson is taking on the role of Vice President noting that Nic Coffey is in his second year of his two-year term as State National Board Representative. Special thanks to Michael Campbell in his efforts in the Vice-President role over the last year and his willingness to stay on the COM. Thanks to the whole COM for their efforts, willingness to continue on the committee and pitching in to make all our activities the success that they are.

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.

I just thought of another saying – spring is in the air! Google reckons that it means something exciting or significant is about to happen, please join us making it a reality.

Danny Tincknell
President, QLD Committee of Management

Victoria/Tasmania

THE VICTORIA / Tasmania Branch continues monthly Lunch + Learn professional development sessions, offering key insights on industry standards and safety practices. These sessions are recorded and available to members to review on the IHEA website: www.ihea.org.au > Resources tab > Learning + Professional development

Branch Activities

Lunch + Learn Sessions:

AS 1668.2-2024, The Use of Ventilation and Airconditioning in Buildings, Part 2: Mechanical Ventilation
Date: 02 July 2025 – 58 participants attended

Presentation showed how facilities may be affected by key changes in the new standard, including enhanced requirements for ventilation system performance in critical areas such as operating theatres and isolation rooms, updated air exchange rate specifications, and revised energy efficiency and air quality guidelines. These updates are particularly relevant to maintaining compliance and ensuring the safety and comfort of healthcare environments.

The AS 1668 series is the foundation for Australian HVAC practices, helping indoor spaces maintain healthy air quality by setting minimum ventilation standards. The updates to AS 1668.2:2024 replace the 2012 edition with revised technical requirements that reflect advancements in technology and modern air quality practices. The new standard introduced several changes to healthcare facilities including:

New provisions for HEPA leak testing in accordance with AS ISO 14644.3 or AS 1807 and 99.99% capture (equivalent to EU H14 standard)

Modified provisions for operating theatres including:

- An increase of 20 to 25 air changes per hour (ACH) with outdoor air being 10 ACH
- An air velocity of between 0.2 and 0.3 m/s under the protected zone (new requirement)
- Pressure differential of minimum 10 Pa to surrounding areas

Modified provisions for:

- Sterile Store
- Anaesthetic Bays
- Infectious and Protective Isolation Rooms
- Recovery Rooms
- Autopsy Rooms
- Dirty Utility Rooms
- New provisions for:
- Anaesthetic Rooms
- Birthing Suits
- Emergency Department Areas

The presentation outlined the changes to this standard and what this means for NATA-accredited performance testing on these facilities.

Presented by Alistair Chapman and Gregor Riese.

Alastair Chapman is a Director of GWA Consultants. With over 17 years' mechanical engineering experience, Alastair first began his career at GWA as an undergraduate, then progressing to more senior roles within the firm. In 2020, he was appointed as a director.

His specialty is building upgrades and refurbishment projects. These include full building upgrades, mechanical services central plant upgrades, and building management and controls system upgrades.

Alastair has a special interest in building compliance. He currently represents The Australian Institute of Refrigeration, Airconditioning and Heating (AIRAH) on the Standards Australia ME-062 Committee.

Gregor Riese is an occupational hygienist and principal consultant for the indoor air quality consultancy Giant Hygiene Services. Gregor serves on the Australian Standards ME-080 committee for filtration devices and is a Board member of the Association of Biosafety for Australia and New Zealand. Gregor has formerly done NATA testing of cleanrooms and controlled environments for public and private hospitals. He has been a member of IHEA since 2022.

Enhancing Compliance and Readiness: Emergency Planning for Healthcare Facilities

Date 20 August 2025 – 33 members attended

Healthcare staff juggling multiple responsibilities, you know that in an emergency, seconds matter – and so does preparation.

David Gilmore, Director, EvacServices

David Gilmore is a seasoned consultant with over 15 years of experience in emergency planning and compliance. As Director of EvacServices, he has led the design and implementation of emergency plans across a wide range of sectors, including aged care, childcare, logistics, retail, commercial, and all levels of government.

With a strong working knowledge of legislation such as the QLD Fire Safety Regulation, AS 3745, AS 4083, AS 1851, and various industry-specific compliance standards, David is recognised for delivering practical, site-specific solutions that prioritise life safety, operational continuity, and regulatory compliance.

He also holds certifications as a Fire Safety Advisor, FPAS Accreditation (NSW), and a Certificate IV in Training & Assessment.

MTA PRECISION CHILLERS & HEAT PUMPS

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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**.

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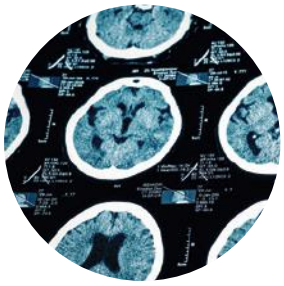
Always focused on energy efficiency and environmental protection, MTA further strengthens its commitment by adopting low GWP refrigerants.

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**.

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If a Code Brown, fire, or lockdown happened today, would your ward know exactly what to do?

Are your emergency plans up to date, site-specific, and compliant – or sitting untouched in a folder?

When was the last time your team felt truly confident during a drill or audit?

Healthcare infrastructure becomes more complex and compliance requirements more demanding; hospital engineers play a critical role in ensuring emergency readiness. Yet, few hospitals currently engage external providers to manage their emergency planning obligations.

This session explored how outsourcing emergency planning can reduce risk, streamline compliance, and relieve pressure on internal teams. Outlined practical models for implementation, common compliance gaps, and the benefits of working with specialists who understand the unique operational, regulatory, and infrastructure challenges faced by hospital facilities teams.

Emergency management planning in healthcare facilities presents distinct challenges compared to office buildings,

commercial premises, or retail outlets. Hospitals, aged care facilities, and medical centres are responsible for patients with varying degrees of dependency, mobility, and cognitive function. Many cannot be moved without specialised support, and some rely on continuous medical treatment.

Site Tour – Clevertronics Factory & Training Facility, Scoresby

Date 10 September 2025 - 18 members attended

Members and colleagues attended the behind-the-scenes tour of Clevertronics, leaders in emergency and energy-efficient lighting solutions. The session commenced at 8:45 am, with the tour of the facility at 9:00 am, this was followed by morning tea & Networking at 11:00 am and the formal presentation and Q&A at 11:15 am

Look Ahead Activities

Site tour / meeting - Austin Hospital (IoT and others new products in Vic market): late 2025.

- IoT sensors working on pumps, fans, motors, The IoT sensor supplier will complement our presentation.
- Medical Air compressor skid in AT B3 from BeaconMedaes, Atlas Copco Australia. The equipment supplier will complement our presentation.
- Smardt Chiller No 5 in LTB Podium L4. The equipment supplier will complement our presentation.

Branch Committee of Management 2025

Branch President / Board Representative	Michael McCambridge
Treasurer / Board Representative	John Mihalinac
COM member	Steven Ball
COM member	Pablo Perez-Reigosa
COM member	Michael Goodman

Committee meetings are held monthly on the 2nd Wednesday at 9:30 am via Teams. Branch members are welcome to attend, please email ihea.victas@ihea.org.au for an invite.

Michael McCambridge
Vic/Tas Branch President

Western Australia

SPRING IS A time of new growth, a time when we transition out of the wet and cold days of winter into the warmer and brighter days of spring. It is also the time when we renew our Committee of Management. As I write this, Perth has been subject to a very wet August, in fact, we have exceeded our monthly rainfall average for the first time in many decades and it has been cold, well not as cold as our eastern states colleagues experience but cold for Perth. In spite of the temptation to retreat back into the warmth of our homes, our members have been very busy.

The first event of the season was held in the Perth CBD at the Shoe bar in Yagan Square. The event was hosted by Mr David Chocolich from HFM and sponsored by Mr John Biondo from Polar Enviro. Mr Alex Sejournee, HFM Lead Consultant - Strategy delivered a comprehensive overview of the new Australian Sustainability Reporting Standards (ASRS) Requirements. Alex highlighted the seriousness of this new governmental requirement. John demonstrated alternate methods of meeting our emergency exit and external pedestrian lighting compliance. Polar Enviro offers some very innovative solutions. It is well worth visiting their web site and pursuing their product manifest. You just might find something special. Our thanks go to David for hosting the event, to Alex for offering clarity to another complex governmental obligation and especially to John for venturing across Australia to sponsor the event.

It is agreed that in order for sound management and decision making, accurate and comprehensive data is essential, however I worry that all of the data that this ASRS reporting will generate will just sit in some government database gathering cyber dust. Information collection is an expensive exercise that has to be funded.The one thing that was not clearly evident from this directive were the objectives that this information would drive. Health Facility Management funding is stressed enough and if the information does not add any value then why collect it.

The next event on our calendar was the FMA Western Australian State Conference held on July 30th at the Pan Pacific Grand Ballroom. The FMA generously offered discounted rates to the WA IHEA members resulting in many taking up the opportunity to engage with our FMA colleagues.

Polar Enviro's John Biondo

Smart Life Technology

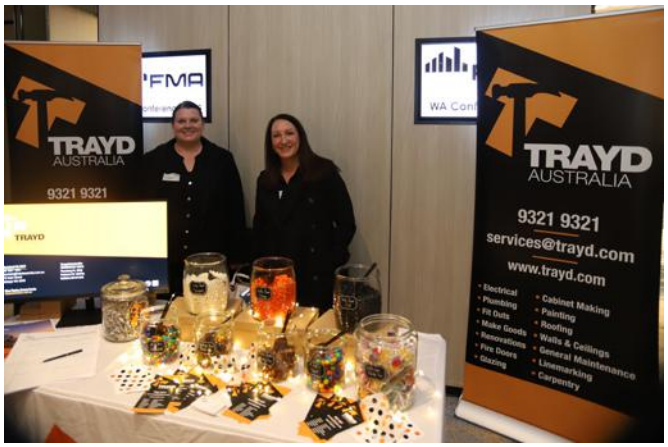
HFM's Alex Sejournee

Pan Pacific

Welcome to Country

FMA's CEO Nic BurtAlex Sejournee

Conference Delegates



Principle Sponsor Trayd

Trade Show Supporter AWB

Norman Disney and Young's Alex Rodger's FMA Climate Change Masterclass

The event hosted over 250 delegates from a wide variety of building facility management disciplines. The conference theme Smart Buildings: The Next Generation of FM covered a wide variety of topics with excellent presentations from keynote speakers and subject matter experts. The conference was supported by a number of allied trade contractors and companies.

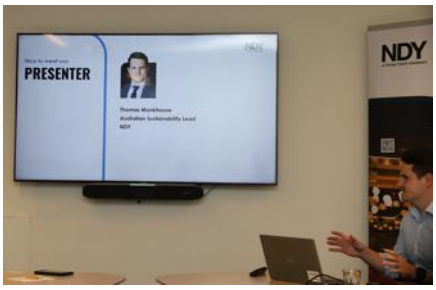
It was interesting listening to the presentations and comparing the differences between Hospital Facility Management with the wider FM community. I came to the personal conclusion that whilst we all share similar obligations and responsibilities that can be distilled into contracts, policies, procedures and the like, it comes to the expectations of our customers where we differ the greatest. The demands and expectations our patients place upon our facilities invoke a heightened risk stemming from sources that can be out of our control. This aside there are advantages we both can learn from each other.

IHEA committee member Mr Alex Rodgers delivered a Masterclass on Climate Change Resiliency in Existing Buildings. Alex's presentation highlighted the impact that the current rate of climate change across Australia is having on our building infrastructures. The frightening bit is just how close we are to the 2 degree C point of no return.

Our thanks must go to the conference committee, to the sponsors of the event for their support and to the presenters and keynote speakers for delivering an interesting and enjoyable event.

On August 24th, 14 members and guests attended the CBD offices of Norman Disney and Young to listen to Mr Thomas Monkhouse, NDY's

Opening Address



Thomas Monkhouse

Alex and Thomas

Outgoing President Jana Simpson

Australian Sustainability Lead deliver an excellent presentation on Reducing Whole of Life Carbon in Healthcare: From Design to Operation.

The evening was truly eye opening and when combined with Alex's earlier FMA presentation, the content sparked a robust conversation about how health can reduce its embedded and operational carbon. The main culprit is the "Churn and Burn" redevelopments that are a constant legacy of our aging Healthcare facilities. The irony is that there are already robust solutions available however the greatest hindrance to zero carbon is the budget process. Green is good but it costs money. Our public and private health decision makers will have to get serious about arresting climate change or that critical 2 degree C deadline will arrive much sooner than expected. This would have to be one of the best value added professional development sessions we have run this year. If you missed it I believe NDY will release a modified version soon. Our thanks to Thomas and Alex for hosting such an informative thought provoking evening.

To wind up a very busy time we held our annual Special General Meeting held on Friday August 29th at the Melville Palmyra Tennis Club Rooms. The evening opened with our outgoing President Ms Jana Simpson delivering an overview of the preceding year's activities. On behalf of our members I want to pass on our sincere thanks to Jana Simpson our outgoing President, Andrew Waugh our outgoing Vice President and outgoing committee member Yulie Olsson-White. Your inspiration, innovation and passion has been a driving force to move the WA chapter into a new and vibrant era. I would also like to extend our gratitude to our corporate supporters, without your support we could not have offered such a wide variety of educational and entertaining events.

With all positions declared vacant we set about electing a new 2025 / 206 committee of Management. The election results are below.

Welcome aboard to our new 2025 / 2026 committee of management.

Elected Executive Members

Brendan McFaull	State President
Frederick Foley	Vice President
Zachary Browne	State Secretary
Gavin Kinsella	State Treasurer
Jana Simpson	Immediate Past President
Frederick Foley	National Board Representative

Elected Committee Members

David Chokolich	Events & Conference Coordinator Education & Professional Development Officer
Alex Rodger	Education & Professional Development Officer Technical & Standards Advisor
Stephanie Papanaoum	Membership & Engagement Coordinator
Steven Delides	Technical & Standards Advisor
Frederick Foley	State and National Journal Editor
Alex Foster	Committee Member
Rupert Lodge	Committee Member
Liam Jackson	Committee Member
Darryl Carter	Committee Member
Phil Bedford	Committee Member

Committee Roles and Duties

President	Strategic leadership, external representation, committee oversight
Vice President	Supports the President, leads initiatives and engagement, acts as interim leader as required.
Secretary	Manage records, agenda and minutes, ensures governance compliance, facilitates communication
Treasurer	Financial planning/reporting, compliance, manages sponsorships and funding opportunities
National Board Representative	Represents WA at IHEA National Board meetings
Membership & Engagement Coordinator	Attracts/retains members, organizes events, supports professional development initiatives
Education & Professional Development Officer	Oversees training/workshops, collaborates with academia and industry
Communications Coordinator	Manages digital presence and marketing, creates newsletters, boosts engagement
Events & Conference Coordinator	Plans events/conferences, manages logistics, sponsorships, and speakers
Technical & Standards Advisor	Advises on industry regulations and best practices, supports develops guidelines, liaises with regulatory bodies and technical working groups
Committee Member	Attend monthly committee meetings, vote on decisions and assist with event and sponsorship ideas

One of the innovations born into life by the last committee was a definition of the committee roles and duties. These duties are not arbitrary or set in stone but to generate a point of contact to effect smoother committee operations and to spread the burden across the whole committee.

With the formalities done and dusted, we focussed our attention on our special guest speaker Dr Nicholas Mabbott. Dr Mabbott is a renowned fatigue management specialist and consultant. His expertise is sought after with mining and trucking companies, our police force and our judicial system.

Dr Mabbott commenced his presentation with an introduction on why we need to sleep and not just going to bed and snoozing but the importance of getting 7.5 hours of good quality sleep. He transitioned into the demographic of what sleep is and the consequences of short cycling your sleep. He set about educating the delegates on how to get a good night's sleep, how to avoid the hindrances to sleep and how sleep or the lack thereof is related to a number of chronic diseases such as diabetes, alzheimer's and hypertension to name a few.

The most disturbing aspect of our society's fixation with minimalistic sleep is our road toll. Dr Mabbott explained in detail about the severe risk our drivers are taking by driving impaired due to the lack of quality sleep. He demonstrated how we are affected by the lack of sleep and the frightening aspect is that we are mostly unaware or ignorant that our cognitive abilities have been impaired. He illustrated his point with shocking examples of the ultimate consequences that good people faced because they had not had good quality night's sleep.

Dr Mabbot's passion for road and work safety is exemplary and I can personally recommend that you take the time to look up Dr Mabbot on youtube and invest time in your sleep habits. We thank Dr Mabbott for taking the time to educate us on this important and often neglected health matter.

Dr Nicholas Mabbott

With respect and kindness
Frederick Foley

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At Eurofast, we understand that hospitals cannot afford downtime when seismic events occur. That's why we engineer supports, bracing and restraint systems designed to safeguard critical healthcare environments, from operating theatres and intensive care units to life-sustaining medical equipment and essential services.

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Case Study: Prince of Wales

Seismic Bracing to AS1170.4 for Mechanical Services

Client: Fredon Air NSW
End Client: NSW Health Infrastructure
Location: Randwick, Sydney, Australia
Services Provided: Engineering, Design, Supply & Certification

Project Overview

The Prince of Wales Hospital Acute Services Building is a flagship development within the Randwick Health & Innovation Precinct. Designed to expand clinical capacity and integrate advanced healthcare services, the building strengthens the delivery of patient care across New South Wales.

Eurofast was engaged by Fredon Air NSW to provide seismic engineering solutions for the hospital's mechanical services. This ensured critical systems such as HVAC, ductwork, and pipework were designed, secured, and certified for resilience, compliance, and long-term reliability.

Outcomes

- Fully compliant seismic bracing solutions
- Protection of critical building systems
- Contribution to long-term safety and resilience of hospital facilities

Key Value Delivered

- Specialist seismic expertise in healthcare infrastructure
- End-to-end service: from design to certification
- Seamless collaboration with Fredon Air NSW

Eurofast — Engineering Resilience into Australia's Healthcare Future

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A Brief Conversation with Alex Foster

For nearly two decades, the name Foster a.k.a Fosters Services has been closely allied with the Healthcare Facility Management in Western Australia and it is about time we got to meet with the man behind the name. So on the morning of Wednesday the 3rd of September 2025 I met with the very busy Alex Foster at the Fosters Services O'Conner office.

Alex Foster

ALEXANDER DAVID FOSTER was born into a working class family, spending his childhood in the surrounds of Spearwood and Mosman Park. He attended Mosman Park primary, then Iona College finally graduating year 12 in 1995 at the Christian Brothers College (CBC) in Fremantle.

Leaving school Alex initially had ambitions at being an accountant, however as circumstances availed, the Fremantle TAFE College offered a rare opportunity by running the Diploma of Electrical Engineering course. Grasping this opportunity, Alex's future moved from the world of Finance to the science of Electrical energy and he has not looked back.

Alongside his fellow students, some of which would go on to hold senior Health Facility Management positions, Alex completed the course and was awarded the Diploma of Electrical Engineering. The framed evidence of Alex's tertiary accomplishment sits proudly on the wall above his desk. This qualification opened the way for Alex to complete a mature apprenticeship in Electrical Fitting with a local Electrical Contractor. Alex is very proud of his trade qualifications and this achievement also occupies a position of pride on the wall alongside his diploma.

Alex's early electrical experiences centred mainly in commercial and high end cottage work however he was granted the rare opportunity of working within the emerging communications field. Alex set about absorbing as much knowledge and experience as this opportunity offered. Attaining his communication qualifications opened the gateway into WA health with Alex being seconded to St John of God Hospital Subiaco. The then Chief Engineer, Mr Glen Flanigan recognised that Alex's communication experience was a valuable asset to their electrical team and over time they mentored Alex in the nuances in healthcare electrical maintenance.

As with a lot of contractors in those years, the company Alex worked for was up for sale. Facing an uncertain future, Alex and his wife Rebbecca made a New Years Eve resolution to start their own company. So Fosters Services began. Initially servicing the North West of Western Australia, Fosters Services at the insistence of several WA Health Facility Managers, was enticed back into WA Health fraternity. True to form Alex has a photograph of their first service ute adorning his office wall. It is a humbling reminder of where it all began.

Now creating and operating a successful company is never a one man show. It takes the support and dedication of a number of people. None more important than Alex's wife, Rebbecca and their 3 daughters Alyssa, Alivia and Amelia. Alex stated that if it was not for their understanding and support he would not be where he is today. Alex says that his family life is very important to him and there are steps in place to ensure a proper work / family life balance is always maintained.

During our conversation Alex made it very clear that Fosters Services is a team effort with everyone contributing their own unique brand of passion, expertise and commitment. In fact their first apprentice still works at Fosters Services. Fosters Services will celebrate 20 years of operation next year in 2026.

Some of the Fosters Team

2025 WA Master Electrician of the Year

Alex is ultimately the managing director and as such must hold the responsibility of leadership. Alex's understanding of hospitals being ever evolving unique entities and his passion for excellence, compliance and sustainability has seen Fosters Services grow from a single vehicle entity into multi faceted business encompassing Medical, Communication Service delivery and EV Charging Systems with over 60 staff members and a fleet of EV service vehicles. Good leadership is infectious and will always flow across the whole team. This is very evident with the Fosters team earning numerous industry acknowledgements and awards for electrical excellence and sustainability, culminating in being named the Australian Master Electrician of the Year in 2021. More recently they have been granted the world's 1st Schneider Electrics Certificate in EMobility.

Fosters Services hold accreditations with ISO 9001 Quality Management, ISO14001 Environmental Management, ISO45001 Health and Safety and NATA17020 Inspection Accreditation.

Alex was introduced to the IHEA by Hospital Engineers Mr John Doherty (deceased), Mr Mark Stoke (retired) and Mr Frank Woods (retired) where he joined as a corporate member in 2006. Being an active IHEA member and supporter for well over a decade, Alex added his own personal membership in 2019 when he was invited to sit on the WA Committee of Management ultimately rising to the level of Vice President. Alex continues to offer his support by renominating for the 2025 / 2026 committee.

Alex holds on a number of senior positions namely the:

- The IHEA representative for Australian Standards Committee for Standard AS3003,
- A seat on the National Western Australian Master Electricians Board,
- The Melville Palmyra Tennis Club President for 24 years,
- A seat on the Melville Palmyra Sporting Association
- The Chair of the Seaton Catholic College Parents and Friends
- A seat on the Seaton Catholic College Board

When asked "Where to Now?" Alex responded with "Always remaining at the coal face providing support and technical expertise to the WA Health Facility Managers when they need it". Alex made a very apt comment that sums up the evolving electrical world. He said "A decade or so ago it took a pair of pliers and a screwdriver to fix most electrical problems. Now it is a laptop." Companies must evolve with the world by being willing to adopt change and new technologies. Alex has taken his own advice and has taken Foster Services into the emerging 21st century world of full electrification. He also added that working within WA Health and the IHEA is unique, where everyone genuinely supports each other and which he is privileged to be a part of.

As a retired Hospital Engineer I can identify with the comfort and confidence that comes from having passionate, qualified and experienced people like Alexander David Foster who are willing to provide that support in times of need..

With respect and kindness, Frederick Foley

Poor Air Quality = Higher Infection Risk

Studies show hospital-acquired infection rates are significantly higher where ventilation is inadequate.

🦠 Hospital-acquired infections rise where ventilation is poor

🛏️ Operating theatres, ICUs, and wards demand tailored ventilation strategies.

🦠 Contaminated HVAC systems increase occupational hazards and infection risk.

🌍 Global health authorities now highlight IAQ as central to infection control.

Blue IoT's Solution: More than monitoring. We protect lives.

- ✓ Continuous IAQ monitoring (Temp, humidity, TVOC, PM, CO_2, and gases).
- ✓ Instant alerts when unsafe conditions emerge.
- ✓ Professional end to end remediation services to restore safe, compliant air.
- ✓ Proven deployments cut health & safety risks by **14%**
- ✓ End to end IoT & integration services

How do we know how our ventilation is performing in every location of our healthcare facilities?

👉 **Only by monitoring across all critical areas and acting on the data.**

Why Act Now?

- ⚠️ Hospitals have complex, area-specific ventilation needs.
- 🌍 Global regulation is coming: Taiwan has already mandated IAQ compliance, others will follow.
- ⏰ Protect patients, safeguard staff, and prevent costly reputational damage and mitigate possible future litigation.

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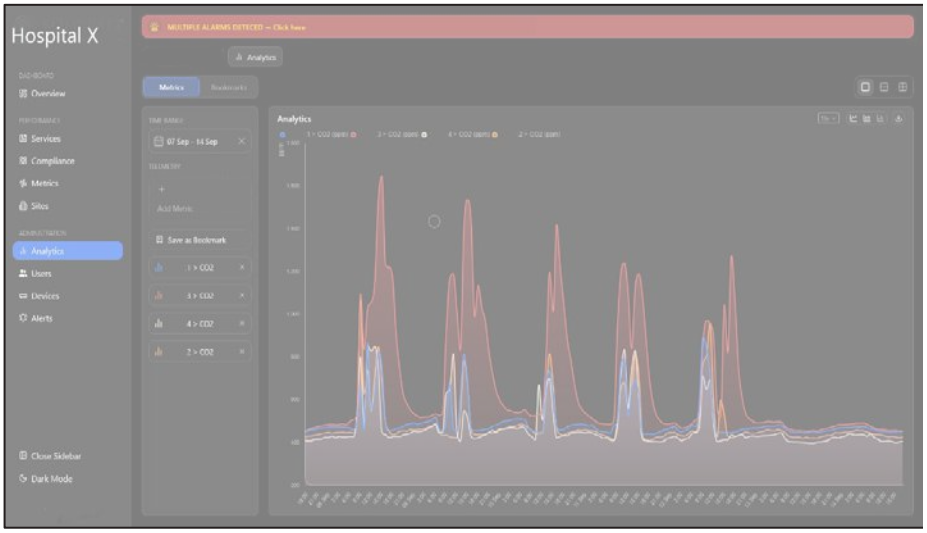

Synetica IAQ-C WELL Compliant wireless Sensor

Indoor Air Quality: The Next Critical Frontier in Patient Safety

The evidence is clear: poor indoor air quality (IAQ) in hospitals drives higher infection rates, increases occupational hazards, and places patients, staff, and visitors at risk. Airborne transmission in healthcare facilities is alarmingly high, and inadequate ventilation or misdirected airflow amplifies the danger. For hospitals, where vulnerable populations are concentrated, the consequences are profound.

Improving ventilation and monitoring airflow are no longer optional, they are essential controls against airborne pathogens. *For example, if CO_2 levels in a hallway reach 1,500ppm and a contagious person walks past, the probability of transmission increases dramatically for COVID.* Without monitoring, unsafe conditions remain invisible until infections occur.

Policy momentum is building. Taiwan has already mandated IAQ compliance, and similar legislation is emerging globally. Healthcare executives who delay addressing IAQ face not only safety risks but also compliance failures, reputational damage, and potential litigation.

The good news is that solutions exist. The Internet of Things (IoT) provides a practical, cost-effective pathway to continuous IAQ visibility. By deploying secure, wireless sensors across wards, theatres, and isolation rooms, healthcare facilities can capture and analyse live air quality trends. This intelligence enables targeted interventions, restoring safe conditions, preventing infections, and protecting lives.

At Blue IoT, we deliver real-time monitoring, instant alerts, and end-to-end IoT, Integration and remediation services, enabling healthcare facilities to move from uncertainty to control. The result: healthier, safer, and smarter healthcare environments.

The question for every hospital executive is simple:

How do we know how our ventilation is performing in every location of our facilities?

The answer: only through continuous 24x7 monitoring and acting on the data.

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Corrosion
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CSSD
Water RMP
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Close at hand: local offices
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FORAY LABORATORIES

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ACCREDITED FOR TECHNICAL COMPETENCE

Methods Used for Preventing Copper Pipe Corrosion

Mark Collen
National Water Manager and Senior Consultant; CETEC.

Figure 1: US Hospital Flooding from failed chilled water pipe[2]

Introduction

Nationally as of 2024, there were over 1606 healthcare projects totalling $58.8 Bn, 49.8 % were in the design and documentation stage and 40% were in the concept stage.[1] All of these facilities will use water, and most of the major potable water pipe work will be made from copper. Facilities will also use PEX and, only in specialized areas, stainless steel, or other materials.

Facilities are typically fed externally from municipal water networks (in city and suburban areas). Country areas may utilise their own water supply, feeding from bore supplies, rainwater collection, and similar sources. The municipal water supply may be of good quality, in which typical water parameters such as water hardness, total dissolved solids, etc., fall within suitable levels thus creating no significant perceived issues for microbiological growth and/or corrosion.

1 bcicentral.com/blog/healthcare-construction-sector-snapshot-report-in-australia/
2 reddit.com/r/maintenance/comments/1ho6in3/flooding_inside_duke_hospital_in_durham_north

Although, hospital water handling systems may be seen as networks within themselves. They operate using high volumes of water; however, the potable water tends to be slow moving, tempered water which runs along long pipe runs. These characteristics influence the water quality within the pipework, including such factors as bacterial growth, corrosion, scale formation, and heavy metal leaching.

Copper pipe work is prevalent in homes, healthcare, manufacturing, and municipal infrastructure. Its ease of use, ready availability, and relatively low-cost makes copper the material of choice for hydraulic engineers and plumbers. Copper is widely used for its Durability, Ease of Joining, general Long Lifespan, Corrosion Resistance, Malleability, Smooth Internal Surface[2] and other useful properties.

However, copper may corrode.[3] The mechanisms for copper corrosion in hydraulic water systems are fairly well understood, but they are not entirely predictable or fully understood in all real-world scenarios. Considering most of the pipe work in healthcare is made from copper, pipework damage from corrosion can have a major and widespread impact on the day-to-day operation of these facilities.

Practices such as preparing copper for use (as per AS3500.1), pretreatment of water for use in copper systems, and impacts of exposure of copper to low and high flow velocities, appear to be the subject of conjecture and varying opinions on their effectiveness.

Defining Water Quality

The term "water quality" may have different understandings and interpretations for different people. For some, the term applies to taste, clarity, or other aesthetics. From the water chemistry side, the term may apply to compliance to certain standards or achieving certain parameters, e.g. AS5369 table 7.2/7.3/7.4 compliance, or acceptable Ryznar/Langelier/Puckorius indices, or compliance to the Australian Drinking Water Guidelines (2024).[4]

For the purposes of this paper, we shall look at water quality as parameters that may influence the corrosivity of water, particularly those that may affect the internal protective layers of copper pipe work.

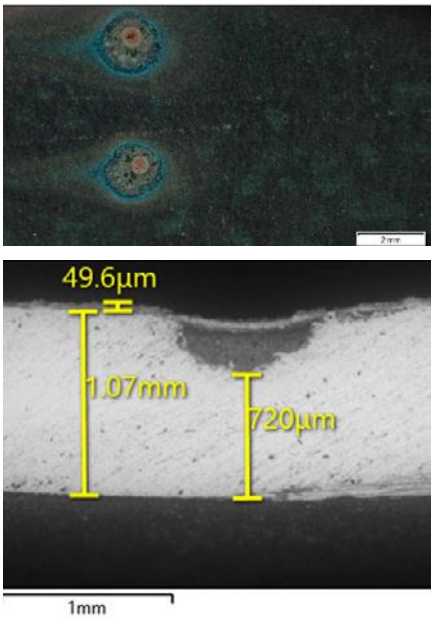

Figure 3: Pits in a pipe (collected from An Australian Hospital)

The pictures above were taken from a scanning electron microscope looking at pipes from a hospital in Australia. This facility was experiencing pin holing and pipe degradation induced by:

1. Low flow zones
2. Particulate damage (possible microbial under deposit) to oxide protective layer
3. Infrequent flow accelerating pitting corrosion

The facility was looking to implement flow regularity to 0.8-1.5ms^{-1}.

In addition, the facility was looking to implement filtration to decrease the amount of fine sedimentary material entering the pipe work and facility.

Types of Corrosion

Water interacts with the metal pipework in multiple ways. The interaction of

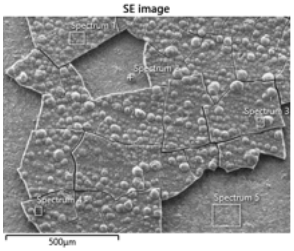

Figure 4: Scanning Electron Microscopy of Sedimentary deposited material from copper line in an Australian Healthcare Facility

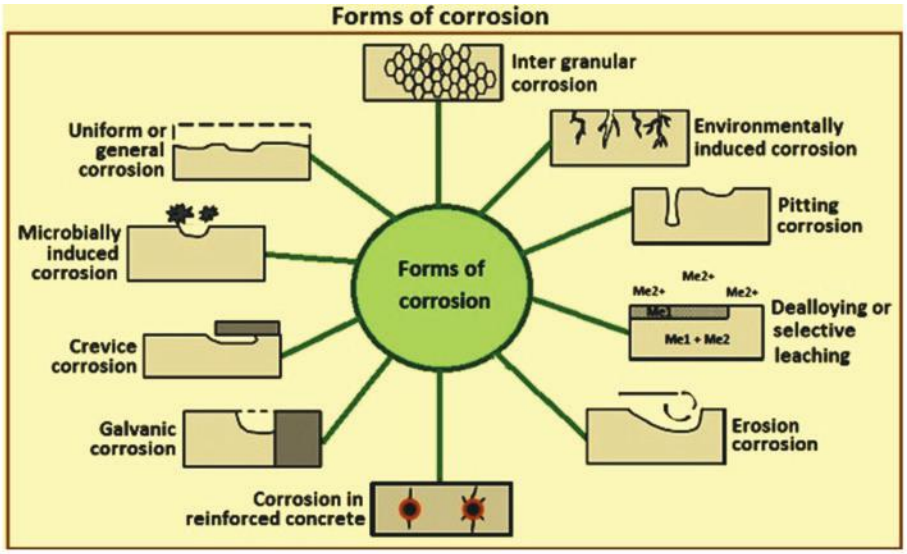

Figure 5: Types of Corrosion[4]

2 researchgate.net/profile/Shaheen-Mehtar/publication/5779438_The_antimicrobial_activity_of_copper

3 sciencedirect.com/science/article/abs/pii/S0043135416300318

4 https://www.waterquality.gov.au/introduction

4 https://www.ispatguru.com/basic-concepts-of-corrosion-of-iron-and-steel

corrosion is defined as "the phenomena and processes whereby the metal surface undergoes loss caused by chemical or electrochemical action from the surrounding medium".

The process is propagated by means of driving mechanisms. These mechanisms or corrosion types are presented below:

As per above, one of the more commonly discussed mechanisms is microbiologically induced corrosion (MIC). The mechanisms of MIC corrosion damage include:

4. **Cathodic depolarisation:** Bacteria absorbs the hydrogen formed at the cathode into their metabolism thereby activating the galvanic cell.
5. **Attack of biproducts of metabolism:** Bacterial metabolism produces aggressive substances, for example sulphides, sulphuric acid, nitric acid, or organic acids which attack metal.
6. **Formation of electrochemical cells:** These form underneath deposits as differences arise in aeration, salt concentration, pH, and so on. This is the most prevalent form of MIC.

CETEC use a modelling package to facilitate these calculations. The software is particularly useful in assessing variability in corrosivity with temperature, pH, and other parameters.

Factors Affecting the Corrosivity of Water

Mineral constituents of water (anions, cations, suspended matter, soluble matter), temperature, velocity, and microbial activity may all affect the corrosivity of water.

Corrosivity may be predicted using indices as per below:

- **Langelier:** Calculated from pH, Conductivity, Calcium (Ca), Bicarbonate (HCO3), Carbonate (CO3), Temperature (T[5]) - used for prediction of corrosivity or scale formation
- **Ryznar:** Calculated from pH, conductivity, Calcium, Bicarbonate, carbonate, temperature.[6]
- **Puckorius:** similar to Ryznar but accounts more for the buffering capacity of water (uses the equilibrium pH rather than single reading).
- **Larson-Skold**: Uses chlorides, sulphate, bi carbonate, and carbonate. Index particularly used for mild steel and the impact of chlorides and sulphate contributing species on corrosivity.[7]

The indices used have limitations as with any index calculation. The calculation cannot factor in all contributing issues. They may, however, be useful as indicators or predictors of possible issues.

The presence of organic materials such as organic acids, complexing agents, ligands, and other reactive molecules may induce corrosion. Such materials may be present in natural waters such as river waters and recovered waters including recycled municipal water.

The presence of bacteria, which is evident in most water systems, presents the risk of microbiologically induced corrosion. The addition of sanitizing agents including chlorine, chloramine, and chlorine dioxide is aimed at providing a residual disinfectant to promote biological control. Due to the reactivity of such species, the residual disinfectant diminishes with time. This is why flushing of lines becomes significant to:

1. Replenish the chlorine levels to reduce risk of biological growth
2. Move through dead or dying microbiological material
3. Move through any depositing biomatter and suspended matter

Measurement of Corrosion

Corrosion coupons (ASTM D2688) and electronic corrosion measurement methods may be useful in measuring corrosion in systems. These methods also have limitations

1. Corrosion coupons provide a measurement of corrosion rate in isolation (corrosion coupons are mounted on an electrically isolated PVC rod, hence, isolated from the cooling system but in contact with the flowing water at a preset velocity), focused on the water quality impacts. They will not typically provide much information for localised corrosion, microbiological corrosion, dissimilar metals, and erosion corrosion.
2. Corrosion coupons may be used to assist with pitting assessments, though again, limited to measurement in isolation from the system itself.
3. Electronic corrosion measurement is a rapid measurement method, providing a rapid corrosion measurement in the flowing water. The method may be used for prediction of pitting corrosion but has similar limitations to coupons analysis.
4. When using copper coupons, the formation of an oxide layer (protective coating that gives copper its protective capability) will not form rapidly, hence, measurements using fresh coupons may see a skewed result when comparing results with existing aged copper surfaces.

Figure 6: Corrosion coupons from a Hospital in Australia

5 The analytical control of anti-corrosion water treatment; Journal of American Water Works Association, V28; W F Langelier; 1946.

6 A new index for determining amount of scale formed in water; Journal of the American Water Works association, 1949.

7 Laboratory studies relating Mineral Quality of water to Corrosion of Steel and Cast Iron; Illinois State Water Survey (1958).

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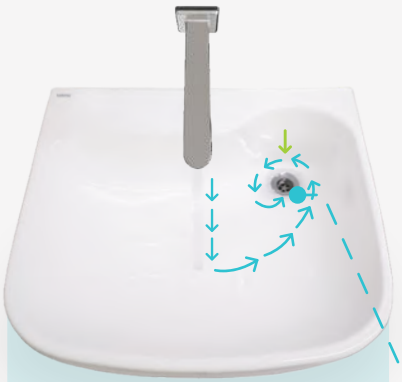


→ : Water flows on the surface, not directly into the waste

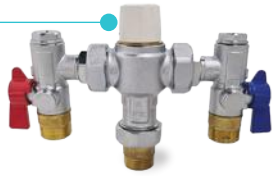
→ : Soap flows directly into the basin

SOLUTION #2
GRATE SEAL® One-Way Valve

- GRATE SEAL® provides a seal between the basin waste and the basin bowl to seal off any possible aerosol of bacteria and biofilm into the hand wash area

SOLUTION #3
Thermostatic Mixing Valves

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



- Lead Free – Mandatory in 2026
- 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

SOLUTION #4
Thermostatic Mixing Taps

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

- Lead Free – Mandatory in 2026
- 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

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Dosing of disinfectants has often been blamed as the cause of pipe damage, particularly pitting.

Research[8] and experience support the observation that pipework damage is likely near dosing points, even in stainless steel pipes, and will often appear as pitting. Bends and areas where chlorine may accumulate are regularly seen as failure points.

However, when chlorine or other disinfectants are mixed and distributed correctly, within correct parameters, smaller increases in corrosion rate are observed. Careful consideration of disinfectant selection type is required. The effects of breakpoint chlorination, interaction with metals, interaction with PEX or other types of plastic pipes, and microbiological control efficacy should all be considered as part of any selection process.

Prevention of Damage to Copper Pipe at Installation and Commissioning

As has been outlined earlier in this paper, copper must develop an oxide or patina layer to protect itself. Without this layer, copper is reactive, and vulnerable to attack from the corrosion mechanisms outlined.

The oxide layer forms with time. The formation of the layer is affected by time, flow, and activity of chemicals.

8 Corrosion of Copper Pipe in Australian Drinking Waters, WSAA Materials Fact Sheet No.05

The data presented in Figure 7 below demonstrates the process of oxide formation as measured via an electronic corrosion monitor.

Research indicates that copper pipes, when new or just installed, can be protected using strategies of good practice:

1. Clean the copper surface carefully, using only approved materials, considering the risk present. Such cleaning materials must be removed prior to use.
2. Review residual disinfection process – maintaining enHealth guidelines levels of free chlorine of >0.5ppm at outlet is recommended9.
3. Allow the copper oxide to form before exposing the pipes to more aggressive environments[10]. Note the consideration to delay super chlorination for new pipework may be applied, to prevent high concentration chlorine damage to copper, until the oxide layer has formed.
4. Ensure the water circulating in the system is of a low corrosive nature[11], and free from particulate matter[12]. Filtration should be selected based on a particle size distribution and thus removal of potentially damaging particulate matter[13].
5. Verify flow velocity[14] is consistent and not excessive. Values of 0.8-2ms-1 are applicable but should be verified by the Hydraulic Engineering team. Flushing procedures and frequencies are required to be implemented particularly in areas where water use may be inconsistent.
6. Avoid ammoniacal and sulphurous materials in the copper pipes. This may exclude the use of copper pipework particularly with certain types of bore water. Careful analysis of makeup water, and modelling of such may be required.
7. Monitoring using coupons and measurement of dissolved metals in the water may prove a suitable means of tracking efficacy of protective measures. Verification of lead levels is typically conducted, as a means of verification of safety of installation (heavy metals consideration).

CETEC has worked alongside major healthcare facilities to assist with implementing the copper oxide deposition process. These facilities used the steps of pre-cleaning of pipe work to avoid oxide layer disruption, application of 1-2ppm chlorine levels within potable water, application of careful filtration, and application of routine flushing.

Some facilities have delayed the implementation of the hyperchlorination process required under AS3500, until the oxide layer is in place, typically 3-4 weeks, while carefully maintaining 1-2ppm free chlorine at the outlet measuring points. This process is ongoing, although, according to current research, has reduced the risk of copper pipe damage.

9 Enhealth Guidelines; 2015.
10 https://fractory.com/copper-corrosion/
11 Virginia Tech, study commissioned by WSSC, December 2004
12 Journal AWWA , August 2001, Vol. 93, No. 8, pp. 82–91
13 Copper Tube Handbook; Copper Development Association Inc; 2024; p15
14 https://www.totalmateria.com/en-us/articles/corrosion-off-copper-and-copper-alloys/

Figure 7 measurement of oxide layer deposition on copper surface.

Site measurement of flow velocities would be conducted when facilities enter operational phase. CETEC will often conduct this using non-intrusive flow monitoring.

Conclusion

A clear understanding of the importance of maintaining the copper oxide layer from installation to decommissioning is recommended. Training personnel prior to installation is critical to ensure a reduced risk of damage of pipe work from commencement.

Research discusses pin hole formation, and outlines that pits are formed typically at the facility's commencement of service. Such research outlines that pit or pinholes will likely appear within 6-8 years[15] from construction. Once the pin hole begins to form, the turbulence caused resists the redevelopment of the protective oxide layer. Hence the pit propagates further into the material.

Since no effective means (based on research) exists to halt pit propagation, their formation should be avoided where possible. This requires careful design and consideration of all factors not limited to only those presented.

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15 https://www.nuflowmidwest.com/why-10-year-old-copper-pipes-start-to-develop-pinhole-leaks/

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Future-Proofing Healthcare Building Systems

Getting the Basics Right in Emergency and Exit Lighting

Michael Goodman
Senior Key Accounts Manager End User | Property & Asset Upgrades
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Introduction

The need for resilient, efficient, and future-ready healthcare infrastructure has never been more urgent. As the world experiences an increase in healthcare demand driven by population growth, aging demographics, climate volatility, and global health crises, healthcare buildings must be prepared to operate under both normal and emergency conditions. At the heart of operational continuity and life safety is a system sometimes taken for granted: emergency and exit lighting.

Despite its foundational role in patient and staff safety, emergency lighting is often overlooked in broader infrastructure planning conversations. Yet, it represents one of the simplest yet most impactful areas where future-proofing efforts can be implemented immediately—and cost-effectively.

This paper explores the importance of getting the basics right in emergency and exit lighting, and how modern technologies and approaches such as smart monitoring, long life batteries, energy efficiency, integration with Building Management Systems (BMS), and sustainable design are elevating these systems from regulatory compliance tools to essential pillars of resilient healthcare facilities.

The Critical Role of Emergency and Exit Lighting in Healthcare Settings

In any commercial building, emergency and exit lighting is essential. In a hospital or health facility, its importance is amplified. Healthcare facilities operate

continuously, often with vulnerable, immobile, or critically ill patients and visiting public who are unfamiliar with the complex built environment.

Emergency and exit lighting serves multiple key functions:

- Illuminates pathways for safe evacuation during power outages or fire incidents.
- Supports staff in continuing critical procedures during disruptions.
- Reinforces compliance with building codes and healthcare accreditation standards.
- Improves evacuation response times during crisis situations.

In short, when emergency lighting fails, the consequences can be life-threatening. However, merely installing compliant systems is no longer enough.

Understanding Compliance: AS/NZS 2293 and Beyond

In Australia, the National Construction Code (NCC) prescribes emergency lighting and the minimum standard for emergency lighting is AS/NZS 2293, which governs performance, installation, and maintenance.

The standard mandates:

- Specific illuminance levels for exit paths.
- System duration (typically 90 minutes under battery power).
- Periodic inspection and testing.
- Accurate and up-to-date record keeping.

The standard ensures that the emergency lighting is installed appropriately and is always ready to operate if and when required.

Beyond the standard, modern health care facility managers are facing additional challenges. These pressures are increasing and include such things as ready access to data, prioritising environmental goals, and operating under increasing cost constraints.

Healthcare facility managers must therefore adopt a future-focused mindset beyond the minimum performance requirements of the standard: maintaining compliance, but also building for continuity, innovation, and resilience.

Key Challenges in Today's Emergency Lighting Systems

Healthcare facilities across Australia are at varying stages of maturity in their emergency lighting systems. Some of the common challenges observed include:

1. Ageing Infrastructure and Legacy Technologies

Many public and private hospitals are operating with emergency lighting systems that were installed over a decade ago. These legacy systems are typically:

- Less energy-efficient.
- Based on outdated battery technologies (e.g. NiCd or NiMH).
- Difficult and expensive to maintain.
- Prone to inconsistent performance or system-wide failures.
- Installed with first cost considerations rather than whole-of-life approach.

2. Manual Testing and Maintenance Regimes

Traditional testing methods involve physical inspections and test-switch testing of each luminair every 6-months. This approach is:

- Labour-intensive.
- Subject to human error – it's impossible to be at every fittings at the conclusion of the 90 minute discharge test.
- Difficult to scale across large campuses.
- Often results in delayed fault detection.
- On older sites in particular, little or no baseline data to support an understanding of the asset profile and forward maintenance plan.

3. Limited Integration with Data Platforms

Emergency lighting systems have traditionally been isolated from other digital infrastructure. As hospitals adopt integrated Building Management Systems and centralised data platforms, having siloed systems hinders efficiency and visibility. Lack of real-time data makes it difficult to respond quickly or diagnose system issues remotely. Valuable emergency lighting asset information is not able to be matched with other building information required to optimise performance, manage risk and provide a proactive view of asset health.

4. Increasing awareness and accountability for Environmental Sustainability

Energy use in healthcare is under the microscope. Facility leaders are seeking energy-efficient technologies that align with environmental and ESG (Environmental, Social and Governance) targets. Older emergency lighting systems typically consume more power and rely on environmentally unfriendly battery chemistries.

Furthermore, as end of life disposal costs continue to increase, there is a growing requirement to not only appropriately dispose of end of life fittings but provide evidence that this has been done.

Innovations in Emergency and Exit Lighting Technology

The future of emergency lighting lies in digitalisation, sustainability, and smarter design. Here's how leading health facilities are transforming their systems:

1. Smart Monitoring and System Automation

Smart emergency lighting systems utilise wireless communication protocols and centralised monitoring platforms to automate:

- Compliance testing.

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- Fault diagnostics.
- Maintenance scheduling.
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This approach eliminates guesswork and reduces manual intervention. For example, a system such as Zoneworks HIVE, allows a facility manager to monitor thousands of devices from a single interface, receive real-time alerts, and schedule testing during off-peak hours to avoid operational disruption. Dashboards consolidate information so that the facility manager can quickly view compliance status and system health.

The latest systems also allow for enhanced functionality to provide further optimisation and enhancement of health facilities. Functions included such as occupancy sensing and lighting control can be incorporated without the requirement for additional infrastructure.

2. Sustainable Battery Technology

One of the most significant innovations in recent years is the introduction of Lithium Nanophosphate batteries. Compared to traditional battery types NiCad, Lithium Iron Phosphate, this technology offers:

- Extended life expectancy of 12+ years, more than double the lifespan of other Lithium technologies.
- High thermal stability and improved safety under stress or exposure to heat.
- Lower total cost of ownership, through reduced maintenance and replacement cycles.
- Environmental benefits, as they do not contain heavy metals and have a lower disposal impact. Fully recyclable at end of life.

These batteries provide peace of mind that the emergency luminaires will perform on loss of power, while dramatically reducing maintenance costs.

3. Sustainable and Low-Energy Design

Modern LED emergency luminaires are significantly more efficient than older technologies, consuming less energy and requiring fewer replacements. Manufacturing and quality advancements also mean that fittings also match the performance of the latest battery technology. When paired with Lithium Nanophosphate batteries and intelligent power control systems, the environmental footprint of emergency lighting is substantially reduced.

Other sustainable opportunities continue to emerge. Changes in emergency luminaire lense technology mean that in some applications half the number of fittings are required to achieve compliance simply by choosing the appropriate fitting – resulting in half the installation, energy, compliance and end of life cost. End of life return-to-manufacturer schemes address disposal costs and the complexity of obtaining environment certificates. Also, some hospitals are combining emergency lighting upgrades with energy efficiency programs such as LED batten replacements as part of broader net-zero strategies.

4. Design for Modular Scalability and Upgrades

Future-proofing means thinking long term. Systems should be:

- Modular, so that new wings or departments can be integrated without overhauling the existing infrastructure.
- System support and updates, with firmware, software updates and lifetime technical support delivered remotely.
- Future-ready, flexible and scalable lifecycle management options so that there is no system end of life - just backwards compatible upgrade pathways.
- Protocol-flexible, using open communication standards to support interoperability with BMS, fire, and security systems.

Case Study: Emergency Lighting Transformation in Action

A major hospital partnered with a leading Australian emergency lighting manufacturer to upgrade its outdated emergency lighting system. The existing system required:

- physical manual testing – which was disruptive, time consuming and expensive.
- inefficient luminaires.
- high fitting failure rates resulting in unacceptably high and unpredictable maintenance costs.

These issues are often referred to as the burden of compliance.

The solution included:

- A full transition to a wireless monitored emergency lighting system with Lithium Nanophosphate batteries.
- Integration with the facility's central BMS via a secure MQTT API.
- Deployment of automated compliance testing, generating real-time reports.
- Implementation of LED fittings across all wards, corridors, and public areas.

Outcomes expected within the first year:

- Maintenance costs reduced by 62%.
- Energy consumption dropped by 47%, aligned with hospital sustainability targets.
- Compliance test pass rate improved from 84% to greater than 99%.
- Staff confidence increased, knowing systems were monitored and self-reporting.

The hospital was able to implement automatic emergency lighting testing and monitoring throughout the facility with near zero infrastructure required and utilising luminaires with 12+ year

service life that will deliver maintenance free emergency and exiting for the life of the system.

These results are in line with similar upgrade projects in other health organisation and demonstrates that a well-planned upgrade can yield measurable operational, safety, sustainability and financial benefits.

Conclusion

The foundation of a future-proof healthcare facility lies in getting the fundamentals right—and emergency and exit lighting is one of those non-negotiable fundamentals. While often considered a "set-and-forget" system, emerging technologies have made it possible to turn emergency lighting system into a strategic advantage.

By embracing smart systems, long life batteries, and sustainable design, healthcare facilities can:

- More easily achieve regulatory and compliance standards.
- Enhanced safety for patients and staff.
- Improved resilience during emergencies.
- Reduced operational costs and environmental impact.
- Readiness for future regulatory and technological change.

In a world where the future is uncertain, lighting the way forward—literally and figuratively—starts with getting the basics right in emergency lighting.

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How a 200kW Temporary Heat Pump Chiller Kept a Brisbane Hospital Running with a Dehumidification Issue

A private hospital in Brisbane faced a critical dehumidification crisis after its permanent heat pump chiller system failed during peak demand. With patients relying on climate-controlled environments and sensitive medical equipment at risk, the situation required immediate action. Further complicating the response was the lack of rooftop space for installing temporary equipment, demanding a creative ground-level solution to restore essential heating water for dehumidification.

EVALUATION AND ENGINEERING

Aircon Rentals responded swiftly, assessing the hospital's needs and physical constraints. With no rooftop space available, our team together with the HVAC contractor designed a ground-based solution using a 200kW heat pump air-cooled temporary chiller. The temporary system had to integrate seamlessly with the hospital's infrastructure while maintaining continuous operation throughout the high-demand period.

A key element of the solution was the use of a unit with low noise levels as residential housing was approximately 30 metres away. A water pump was included to ensure stable water flow and system pressure.

DEPLOYMENT AND INSTALLATION

To meet the critical turnaround requirement, Aircon Rentals coordinated the logistics, equipment delivery, and on-site setup rapidly. The temporary chiller was installed in the hospital's parking area, with minimal disruption to normal operations.

The system was fully commissioned and tested, ensuring reliable performance. Remote monitoring capabilities were also deployed, allowing real-time oversight of heating performance and enabling fast response to any fluctuations.

COMMISSIONING AND OPERATION

Once installed, the system operated seamlessly, providing uninterrupted heating water for the dehumidification process to the operating theatres and equipment areas. Continuous monitoring ensured consistent system performance.

DE-COMMISSIONING AND DE-MOBILISATION

When the hospital's new permanent chiller is operational, the temporary system will be gradually de-commissioned. Aircon Rentals works closely with the hospital's engineering team to transition the load in stages, ensuring no disruption to patient care.

SUMMARY

This project showcases Aircon Rentals' ability to respond to high-pressure situations with tailored, engineered cooling solutions. Despite space limitations and time sensitivity, we deliver a reliable, cost-effective system that keeps the hospital fully operational. Our expertise helped avoid downtime, maintain critical healthcare services, and meet regulatory standards—reinforcing our position as a trusted partner in the healthcare sector.

Project Highlights

- Proposal Turnaround Time: 48 hours
- Duration: 12 weeks
- 1 x 200kW air-cooled heat pump temporary chiller
- 80m of Victaulic pipework and flexible hoses
- Pump for water flow management
- Installation in ground-level parking area
- Rapid commissioning and full system integration
- Real-time remote monitoring
- Phased de-commissioning and full site restoration

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Building safer healthcare facilities with durable slip-resistant surfaces

Slips, trips and falls are among the most frequent and costly incidents in healthcare settings.

They affect staff, patients and visitors, and they disrupt care. Across Australia, falls account for 43% of all injury hospitalisations, with "slipping, tripping and stumbling" the single biggest fall type.

Short-life paint coatings on ramps, crossings, carparks and walkways often fail under foot and vehicle traffic, especially when wet. This leads to repeated surface works, operational disruption and liability exposure.

Across workplaces, "falls, slips and trips" account for about 22% of serious compensation claims, second only to body stressing, highlighting why surface performance is critical.

In hospitals, the impact is significant. National data records more than 200,000 fall-related hospitalisations each year, with slip and trip events dominating and driving higher costs and insurance claims.

Healthcare engineers therefore need predictable friction, not repainting. Engineered surfaces with proven wet and dry skid resistance deliver safer, lower-cost outcomes.

Long-term performance through engineered surfaces

OmniGrip Direct (OGD) systems are designed for high-use, high-risk areas in hospitals, aged care and community health. Unlike Short-life paint coatings, OGD's long-lasting safety surfaces retain slip and skid resistance for many years in service.

Independent testing and field performance show OGD's High Friction Surface Treatments (HFST) exceed resistance requirements over extended periods, reducing repeat works and total cost.

For sensitive environments, fast-setting, low-odour installation methods also help keep operations running.

HFST, Coloured Surface Treatments (CST) and Resurface materials can be applied to concrete, asphalt, metal and timber, giving flexibility in upgrades and new works. UV-stable finishes maintain visibility for wayfinding and hazard zones.

These measures target the mechanisms behind many hospital and workplace incidents, where slips, trips and stumbles are the predominant cause of fall injuries.

Proven solutions for safer environment

- **OmniGrip HFST** for steep ramps, loading zones and vehicle entryways in the wet. Field testing show compliance after 18 years
- **OmniGrip CST** for certified slip-resistant pedestrian areas in safety colours, using recycled materials. Meet and exceed skid-resistant standards (P5)
- **OmniGrip Re-Surface** for durable custom-coloured pedestrian and traffic zones, forecourts that combine safety with placemaking.

Sustainability and compliance

All products are Australian-made using recycled and natural aggregates, are VOC-free and independently certified for slip and skid resistance. This supports environmental targets alongside safety outcomes.

Results in action

- **Perth Children's Hospital Kids Bridge**: 11 custom colours using OmniGrip Resurface with six tonnes of recycled aggregate improving safety and reducing maintenance
- **T4 Carpark Ramps**, Melbourne Airport: OmniGrip HFST improved skid resistance and reduced crash risks, installed with zero operational interruption, delivering long-term asset protection
- **GPT Group Carpark**, Melbourne: Slip-resistant resurfacing avoided full replacement, saving an estimated $250,000–$300,000 and extending service life
- **Milleara Shopping Centre, Liuzzi Group**: OmniGrip CST replaced annual repainting with a high-friction surface solution

For healthcare engineers, the aim is clear. Replace recurrent repainting with durable slip-resistant surfacing that reduces incidents, lowers liability exposure and preserves operating capacity.

National datasets and workplace claims patterns support this shift in specification and asset planning.

Are your Assets / Services Critical or Risky?

HOW DO YOU KNOW?

Keith Paintin
Nation Lead Strategic Advisory Services
LUCID CONSULTING.

This paper takes a walk-through Risk and Criticality to understand the similarities and differences between these two concepts. We will consider how these terms should be used in a health environment. Anecdotally, these terms have been used interchangeably at an individual and organisational levels. This misuse has lead to misunderstanding or poor investment decision making.

A definition of risk: The impact of uncertainty on objective" [1]

A definition of critical: "Of decisive importance in relation to the outcome of something."[2]

Let us consider Criticality first. For this paper we consider Criticality to be the impact of the loss of an asset/ system/facility on the organisational performance along with patient safety/wellbeing. This could be at an Organisational / Health District / Function / Building / Room / Asset level. From this statement criticality is scalable and can be applied at different levels through the organisation if it is taken in the correct context. Where there are similar systems / assets/ facilities across a portfolio it may mean that there is a systemic level of criticality that needs to be considered across the whole organisation.

How critical are these systems? whilst it is easy to say they are all critical, some will be more critical that others.

One of the key considerations could be how long the system is unavailable for, an interruption of an hour may be acceptable, but unavailability for a week will have more serious consequences. It may be that one has to go to the next level of detail and consider the assets involved in that system to be able to get a more accurate picture of the level of criticality across the system(s) these could then be graded on a 1-5 scale as the example below.

Once we have a view of the how the criticality of the hospital systems can be determined and the assessments made against the assets / systems. What can we do with this information? We now need to consider the likelihood of failure of these assets / systems. As an example, we could use the following scale using a timeline approach (but does not have to be) e.g.

The combination of Impact and Likelihood of failure is Risk Management. We can combine these two aspects to understand the risk exposure that the organisation faces should the asset failure occur

1 ISO31000:2018
2 Oxford English Dictionary: www.oed.com

Table 1 List of Criticality ratings

Rating	Title	Description	Examples
1 Non-Critical	Low-impact assets	Assets that do not directly affect patient care or hospital operations.	Office furniture, waiting room chairs.
2 Routine	Minor assets	May cause inconvenience but do not pose immediate risks.	Non-essential IT systems, general lighting.
3 Important	Supportive assets	Affects hospital workflow but not patient safety directly.	Sterile supply storage, non-critical HVAC.
4 Critical	Essential assets	Directly affects patient care and hospital operations.	Operating room lighting, medical gas supply.
5 Highly Critical	Life-supporting assets	Failure could result in severe harm or death.	Ventilators, defibrillators, ICU monitors, emergency power.

Table 2 List of Likelihood ratings

Description	Frequency
Rare	Beyond 5 years
Unlikely	Between 1-5 years
Possible	3-12 months
Likely	once in 3 months
Certain	within a month

Table 3 Mitigating action categories

Method	Mitigation
Treat	Address the risk e.g. change design, provide backup systems, alternative processes, suppliers
Transfer	Pass the risk onto to someone else, e.g. Insurance
Tolerate	Accept the risk, the cost of mitigation may be more that the risk exposure
Terminate	Stop doing the activity that is generating the risk

KEY TAKEAWAY 1

The criticality of the asset / system will not change over time, whereas the probability of failure can and so the risk exposure should be monitored on a regular basis

Risk is subjective as you are forecasting the likelihood of a future event. Also the likelihood of failure can change quickly dependent upon the circumstances and so is variable. Once a threat has been identified it should not always be assumed that the likelihood will never change. Criticality is more objective as the impact from the loss of a system or asset can be relatively straight forward to identify and does not change.

By understanding the risk exposure, we can consider how to manage this down to an acceptable level. As we analyse these potential failures, we can consider the most appropriate methods to mitigate the potential impacts. Typically, these falls into four categories

Having understood the theory, it is important to understand the application of this approach. The major critical items can usually be easily identified, but it can be the small items that can be the most critical and are often overlooked. This is where there is high criticality then there should be an exercise to analyse all the assets to ascertain their relative importance and determine appropriate responses, such as independent duplicate system(s), specific spares holdings, emergency call out contracts for specialist suppliers.

We are considering Risk and Criticality in this paper. What happens when a critical asset or system fails, and the potential event becomes real? Many organisations have business continuity plans in place. From experience I know that some are very detailed and well-rehearsed, on the other hand there are some

KEY TAKEAWAY 2

Spare capacity is the additional load an asset can take and still function, without any deterioration in performance.
Redundancy is having additional assets or systems that can be utilised should the primary asset / systems fail

organisations I have worked with that have a document, but no real understanding of the processes and procedures and have never tested them in a real-world practice.

It is important for the continuity of services that the mitigating actions that have been identified are in place, workable, and understood, and implementable.

Take this simple scenario

There one line feeding water to the hospital facility, is it reasonable to state that the water line 1 is a critical asset, should it fail then there will be no water to the hospital. There is a high risk exposure in this scenario.

To address this risk exposure a second line is installed from the water treatment plan to the hospital, by a different route, thereby reducing the risk exposure by half.

Let is consider scenario 2. Line 1 is the primary supply to hospital. This is a critical asset as there would be no supply to the hospital should the line fail. Line 2 could also be used to supply additional capacity to the hospital should it be needed. Line 2 is also a critical asset, should that fail, there will be no supply to the hospital. The installation of line 2 reduces the risk exposure of the hospital losing supply by 50% as there are now two lines that can be used. There are many cases in industry where there may be 2 or more sets of redundancy built into the systems to mitigate the loss of an asset or facility. This is an example of adding redundancy to the system not just additional capacity.

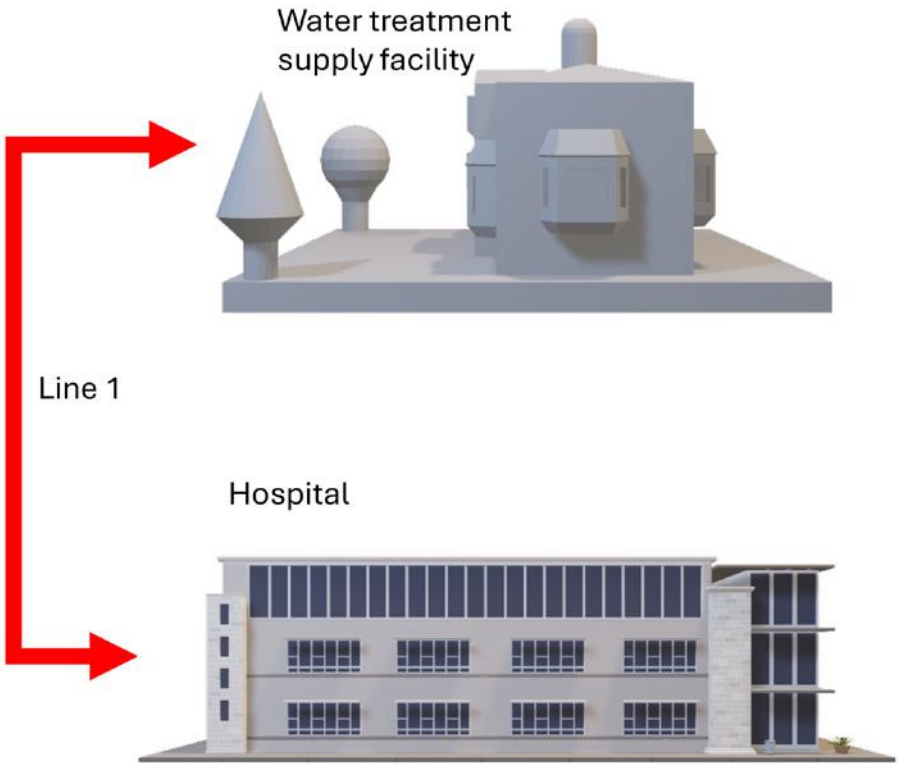

Figure 1 Scenario 1 – 1 line supply

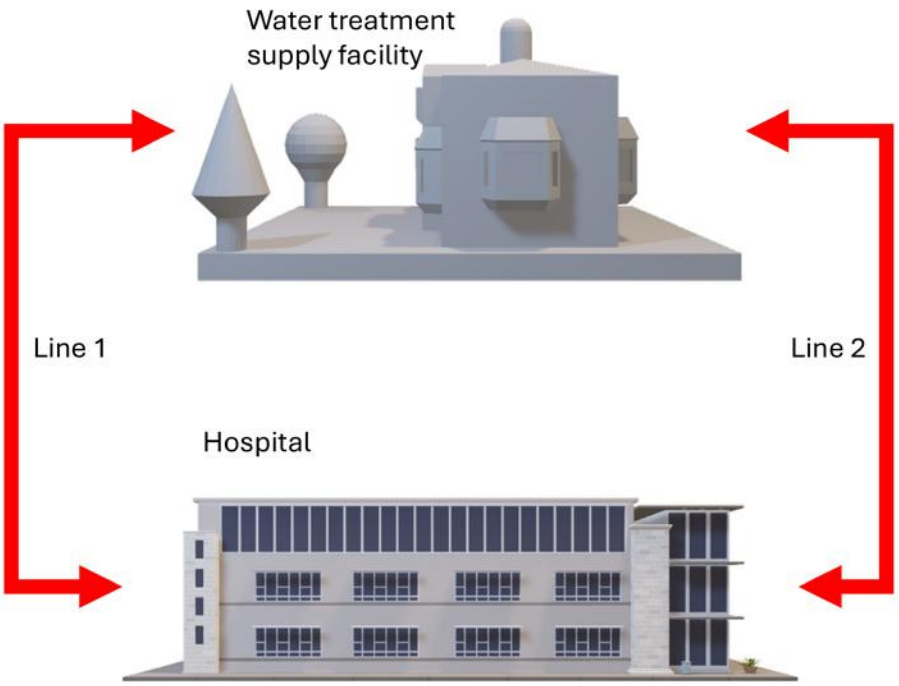

Figure 2 Scenario 2 – 2 line supply

Whilst in this scenario, one may feel more comfortable with the arrangement of 2 lines in place. It would be important that the two lines did not follow the same route to the hospital, to minimise the chance of both lines being damaged by one incident.

From the hospital perspective, whilst two lines will reduce the risk exposure to loss of supply, from line

failure, there is another aspect to consider, that is the water itself. This arrangement of assets will not reduce the risk exposure of contaminated water from the treatment facility and so there should be additional activities in place to measure the water quality and ensure there are contingencies in place to provide water of the required quality and quantity to the hospital should the need arise.

How is risk reduction built into Design? AUSHFG provide some overall guidance, but the state level design guidelines provide more granular details of requirements for N+1 systems and assets. It should however be noted that the end client should be able to direct and have input into the level of spare capacity and redundancy of the systems to meet their own specific risk appetite.

Layers of redundancy can be built into designs without necessarily realising it. Utilising the Capital investment requirements there can be occasions where 3 or 4 layers of redundancy/ spare capacity are built into systems as these are pieced together from first principles without consideration of the outcome. This may be an area to consider going forward, that a holistic review of the systems(s) may identify areas where costs can be saved and yet still have sufficient redundancy and spare capacity to meet client needs and risk appetite.

In conclusion Critical assets have a significant impact upon the delivery of services, but that does not mean that they have a high failure rate, and so they might not be 'risky'. Any assets classed as high risk should have appropriate mitigation actions in place to bring the risk exposure down to a manageable level.

Appendix 1 Hospital facility systems

Let us consider some of the systems that may be available in a hospital.

1. Clinical Equipment & Medical Asset Systems

These are essential for patient diagnosis, treatment, and monitoring:

- Medical Imaging Systems
- Diagnostic Equipment
- Life Support Systems
- Surgical Equipment
- Patient Monitoring Systems
- Laboratory Equipment.
- Sterilisation Equipment
- Rehabilitation & Mobility Equipment

2. Building & Infrastructure Asset Systems

These systems support the hospital's physical environment and utilities:

- HVAC
- Electrical & Power Backup Systems
- Water & Plumbing Systems
- Fire Safety Systems
- Building Management System (BMS)
- Lifts & Transport Systems
- Gas Supply Systems

3. IT & Digital Health Asset Systems

These systems handle hospital operations, patient records, and communication:

- Electronic Medical Records (EMR) & Hospital Information Systems (HIS)
- Radiology Information System (RIS) & Picture Archiving and Communication System (PACS)
- Medication Management Systems
- Nurse Call & Patient Communication Systems
- Cybersecurity & Network Infrastructure
- Telehealth & Remote Monitoring Systems.

4. Support & Logistical Asset Systems

These systems facilitate non-clinical hospital operations:

- Medical Waste Management Systems
- Laundry & Sterile Processing Equipment
- Food Service & Catering Systems
- Inventory & Asset Tracking Systems
- Security & Access Control Systems
- Fleet Management System
- Parking & Facility Management Systems

5. Specialised Asset Systems

In larger hospitals, these additional systems are common:

- Hyperbaric Oxygen Chambers
- Robotic Surgery Systems
- Pathology & Blood Bank Management Systems
- Pharmacy Automation Systems

Making the invisible visible

How many compressed air station operators have complete visibility into their machines' exact condition and compressed air quality? For many manufacturing companies, insufficient monitoring of this critical data is a common challenge. The result? Unplanned downtime, decreased efficiency, and unnecessarily high energy costs.

Kaeser's cutting-edge measuring technology delivers the ideal solution. With advanced process data acquisition, businesses can lower energy costs and sustainably enhance compressed air quality. High-precision sensors track all key process and energy metrics, including leakage currents, voltage quality, pressures, temperatures, and flow rates. Additionally, leaks, pressure dew points, differential pressures, and internal machine conditions are fully transparent - providing operators with invaluable insights and significant operational advantages.

Continuous monitoring

Advanced measuring technology enables continuous monitoring of the entire compressed air system. Data can be captured, analysed, and visualised in real time. Kaeser multi-sensors transmit key measurements directly to central control units, such as the Sigma Air Manager, providing the foundation for future predictive maintenance. This proactive approach cannot only reduce costs but also significantly lowers the risk of unplanned downtime.

Placing the right sensors in the right locations is essential. Intelligent sensors capture multiple data points at

Strategically placed sensors in a compressed air system enhance safety, efficiency, and sustainability.

each measuring location and integrate seamlessly via the secure Kaeser Sigma Network. This advanced process data acquisition enables real-time monitoring, detailed analysis, and valuable system insights for fault prevention and process optimisation. Operators can fine-tune their compressed air systems independently or benefit from real-time monitoring by external experts.

With state-of-the-art sensor technology, modern measuring devices are compact, powerful, and energy-efficient, ensuring reliable operation even in hard-to-reach places. They are also easy to install and ready for immediate use.

Maximum efficiency and sustainable savings

Reliable compressed air supply is essential for seamless production. Kaeser's advanced measuring technology delivers precise data to optimise system settings, detect leaks, and efficiently manage compressed air distribution. This enables compressed air station operators to reduce energy costs, prevent unnecessary downtime and maximise overall production efficiency.

Cutting-edge technology ensures data is accessible anytime, allowing operators to maintain complete system oversight.

Right Water, Right Care: Why RO Procurement Matters in CSSD and Dialysis

SHORTCUTS IN WATER PLANT PROCUREMENT CARRY LONG-TERM RISK

Surani McCaw
B.E. (Chemical), Ph.D.
SOUTHLAND FILTRATION

Reverse Osmosis (RO) plants are critical for maintaining compliant water quality in Central Sterile Services Departments (CSSDs), renal dialysis, and other clinical areas.

Procurement Approaches

Typically, RO plants are procured through:

1. **Directly from a preferred RO supplier** – Shortlisted based on proven capability, quality, ISO accreditation, and reliability under Standing Offer Agreements (SOA).
2. **Bundled with sterilisation or dialysis equipment** – Supplied alongside equipment under SOA or Price Per Treatment (PPT) contracts.
3. **Through the facility builder** – Procured via hydraulic or plumbing contractors.

When hospitals bypass direct engagement with water treatment specialists, responsibility for RO systems often falls to vendors without the necessary expertise. This increases the risk of:

- Non-compliance with relevant Standards
- Shortened system lifespan
- Reduced long-term reliability
- Difficulty supporting patients during failures

Compact RO.
Big impact.

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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.

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Automatic thermal disinfection >80°C reduces manual tasks and risk.

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Stable, high-quality water flow, even during your busiest cycles.

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Fast install, intuitive touchscreen control, and easy data validation.

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Engineered for day hospitals, dental clinics, and small CSSDs where footprint, compliance, and uptime matter.

Watch the PuROtherm MICRO in action.

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Benefits of Engaging SOA-Approved Suppliers

Directly engaging qualified RO suppliers through established frameworks ensures compliance, reliability, and reduced downtime
while protecting patient safety.
Vendors listed under SOA are
selected for:

- Demonstrated capability, and product and service quality
- Proven performance in healthcare environments
- ISO accreditation and strong compliance records
- Availability of qualified local teams for after-hours support and preventative maintenance

Why Bundling Is Problematic

Bundling RO plants with other equipment or hydraulic packages creates significant lifecycle and compliance mismatches:

- **Sterilisation equipment** typically has a 7–10 year lifecycle, while RO plants operate for 10–15 years and fall under water treatment engineering, not medical device categories.
- **Dialysis equipment** is generally contracted for 5 years, making PPT bundling cost-ineffective when compared with RO plants designed for 10–15 year operation.
- **Hydraulic packages** pose compliance risks. Contractors are responsible for pressure and flow, not microbial control or medical device performance. Without specialist oversight, RO plants are vulnerable to biofilm growth, costly remediation, and patient safety failures.

Risks of Avoiding Direct Engagement

Without direct RO supplier engagement, microbial compliance failures, particularly endotoxin issues and component failures often emerge after contracts end.
At this stage, vendors may not be responsible, leaving hospitals with:

- No service support
- No alarm response
- No preventative maintenance

Such failures can cost hundreds of thousands to remediate and endanger patient safety. Any initial savings from bundling evaporate once contamination or breakdown occurs.

Lessons from the Field

Water treatment specialists are frequently called to audit and repair RO systems they did not design or install. In CSSD plants, failures often stem from inadequate design in microbial control, surfacing within 12–24 months post-installation, once the Defects Liability Period (DLP) has expired.

In renal dialysis plants, lack of redundancy and reliance on chemical disinfectants are critical risks. Failures can force hospitals to:

- Use high-cost Continuous Renal Replacement Therapy (CRRT)
- Transfer patients to other facilities
- Send patients home untreated

Getting Procurement Right

Preventing these issues requires hospitals and health districts to directly engage SOA-approved water treatment specialists with expertise in microbial control and critical plant management. Plumbers, sterilisation and renal technicians, or commercial RO suppliers lack this specialised expertise.

Strengthening procurement policies and applying Preferred Supplier frameworks ensures:

- Compliance with AS 5369:2023 and ISO 23500
- Reliable, long-term system performance
- Protection of public funds
- Most importantly, patient safety

About Macdonald Consultancy

Macdonald Consultancy was established in 2017 as a specialist facilities management and asset management consultancy, to fill a gap in the market. To bring robust, research- based consultancy support to the facilities management and asset management sectors. Key facets of our service delivery model include:

- A multi- disciplinary team of directly employed consultants.
- Subject matter expertise.
- Thought leadership; and,
- An innovation partnership with RMIT.

Our services include:

Asset audits and condition surveys – clients typically require this service for a number of reasons including asset register compilation, for the population of asset management systems, to benchmark asset condition, to support maintenance planning and to assist with ISO 55000 and other similar compliance obligations.

Facilities Management Strategic Reviews – working with clients we review the status of facilities management, provide a gap analysis with the recommended position and provide an options appraisal and an implementation plan to close the gap enabling the client to achieve quality improvements and cost optimisation.

Asset Management Maturity – we measure and report the organisations asset management performance against a range of criteria including leadership and accountability, planning, acquisition, operation, and disposal and provide a road map to address any shortcomings identified.

Estimating – Macdonald Consultancy undertake estimates for a broad range of asset management and facilities management activities including planned maintenance, reactive maintenance and life cycle works. There are a wide range of reasons why clients may wish to know the cost of these activities for example they may want to understand the whole of life costs of a new building development or to check that the amount that they are paying is in line with the market.

Lifecycle modelling – using the CAMS tool we forecast the deterioration of assets, over time with due consideration of location and environment and estimate the cost of replacing those assets enabling clients to make informed decisions around the asset base from a whole of life cost point of view.

About the CAMS Partnership

The CAMS partnership between Macdonald Consultancy and RMIT began in 2015 when Donald Macdonald first encountered the CAMS asset life cycle modelling software and met the CAMS development team. Donald immediately recognised the game changing nature of this innovative software and its many unique features and was particularly struck by the following:

- CAMS is a versatile system that can host the full range of asset types typically found in buildings.
- CAMS helps to ensure end-to-end data integrity through the CAMS hand- held data collection tool and the CAMS cloud-based asset hosting and life cycle modelling data base.
- The CAMS architecture enables data to be hosted in the format that best meets client need and is fully compatible with the full range of commonly occurring asset structures.
- CAMS is highly flexible enabling reports to be generated in the format and with the content most appropriate to user needs.
- CAMS offers the user the ability to model various scenarios to enable the matching of asset replacement activities with limited budgets.
- CAMS offers the user the ability to categorise asset replacement requirements from a range of viewpoints e.g., risk, criticality, etc.
- CAMS can present asset data in a way that can be readily understood by technical and non- technical people alike.
- CAMS helps to translate technical data into financial information.
- CAMS can help support business cases for asset replacement by illustrating the linkage between core business and assets identified for replacement.
- CAMS enables effective succession planning through features that include multi- layered password protection, a rigid data base structure and the hosting of data in the cloud.
- CAMS helps with managing the executives expectations through the identification of expensive high- risk asset replacement requirements several years in advance.

Being a research organisation RMIT are focussed on developing CAMS to provide ongoing value to clients and are continually updating the tool to meet clients' evolving needs, current research initiatives include enhancing the functionality of the system, measuring and reporting the carbon footprint of the clients asset base and supporting the circular economy.

CAMS is currently deployed on over 5,000,000m^2 of property throughout Australia and with the release of the CAMS 2 asset management software system the asset management partnership between Macdonald Consultancy and RMIT goes from strength to strength.

Macdonald Consultancy's goal is to help organisations drive down cost and improve quality of their non-core business. Freeing Clients up to concentrate on the reasons that they go to work.

To hear what Macdonald Consultancy can do for your organisation please contact Donald Macdonald at donald@macdonaldconsultancy.com.au or on mobile 0447 800 851.

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- PPP support
- Best practice reviews
- System and processes support
- Operational support
- Building condition assessments

Helping clients with:

- Statutory and other obligations
- Constrained budgets
- Reporting
- Meeting long term fiscal and environmental issues
- Subject matter expertise

Client benefits:

- Risks mitigated
- Spend optimised
- Quality improved
- Distraction to core business is greatly reduced

CAMS LIFECYCLE MODELING TOOL

RMIT UNIVERSITY | MACDONALD CONSULTANCY

RMIT & Macdonald Consultancy in partnership

CAMS delivers:

- Seamless data collection upload and modelling
- Life cycle estimating
- Forward works planning
- Multi-faceted reporting
- Options appraisals
- Micro and macro data analysis

Helping clients with:

- Estimating
- Budgeting
- Reporting
- Capex management

Client benefits:

- Executive/client expectations managed
- Risk of asset failure in service mitigated
- Whole of life costs optimised
- Core business and LCC spend demonstrated
- Supports CAPEX business cases
- Assists with ISO 55000 alignment
- Facilitates succession planning

To find out more about Macdonald Consultancy, please contact us:
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macdonaldconsultancy.com.au

CleanBetter

For healthcare facilities across Australia, the pressure to deliver exceptional patient care while navigating complex budgetary constraints and evolving operational demands is higher than ever. Every investment must show clear returns. Cleaning, once viewed purely as a cost, is now key to both efficiency and strategic value.

Theoldsaying"timeismoney"holdsespeciallytrue in healthcare. Modern decision-makers need solutions that maintain hygiene, use resources wisely, boost productivity, and improve the bottom line. This push for "Greater Efficiency" isleading many to rethink traditional cleaning.

Precision Where It Matters Most: The Deep Clean Advantage

While some tasks lend themselves to automation, the demands of healthcare hygiene, particularly in complex areas, require human-operated precision. This is where the "DeeperClean"delivered by purpose-built machinery becomes a must-have.

Duplex's Floorscrubbers are built for these vital jobs. Their advanced machinesare perfect for tight spaces like patient bathrooms, busy treatment rooms, and various floor types. Duplex's unique contra-rotating brush technology provides a powerful yet safe clean, reaching deep to remove embedded contaminants vitalfor infection control.

Crucially, Duplex's Jetsteam and Jetvac cleaning machines, using clever Tecnovap technology, elevate detail cleaning to a new level. Unlike most "commercial" steam cleaners offering inconsistent steam pressure or limited continuous operation, these professional-grade systems deliver **180 degrees superheated dry steam at consistent high pressures** direct to the surface. This means they truly clean and disinfect high-touch points, sensitive equipment, grout lines, and hard-to-reach crevices where traditional methods fail.

This strong ability means Jetsteam/Jetvac machines effectively killbacteria,viruses, and mould without harsh chemicals. This greatly cuts chemical costs and makes things much safer for patients, visitors, and cleaning staff. Tecnovap's strong industrial components also ensure continuous high-performance operation in demanding healthcare environments, offering reliability and efficiency far beyond what lesser machines provide. In Jetvac models, the mix of high-heat cleaning and instant vacuuming means surfaces are left hygienically clean and dry fast, ensuring rapid room turnaround times – critical for operational flow.

Once critical precision cleaning is in place, the next step is to make bigger, repetitive jobs better. Where every staff hour is precious, automating regular floor maintenance becomes a game-changer. This is where the "Next-Level Intelligence" of robot cleaning truly revolutionises the landscape.

Companies like Floor Botics deploys martrobotic scrubbers that work non-stop across vast floor areas like long corridors, expansive waiting rooms, and large common spaces. By precisely mapping their environments, these intelligent machines deliver consistent, comprehensive cleaning without constant human supervision. This directly contributes to operational ROI by:

- **Optimised Workforce**: Empowering stafff or critical, complex cleaning and patient-facing roles, improving job satisfaction and reducing burnout.
- **Reduced Operational Costs**: Significant savings on labour hours and related budget relief.
- **Consistent Performance**: Robots deliver a consistent quality of clean, reducing variations and ensuring hygiene compliance.
- **Data-Driven Decisions**: Robotic systems provide precise reports on cleaning coverage and efficiency for audits and continuous improvement.

The Future Looks Clean: A Smart Investment For Care

Forward-thinking healthcare facilities understand the optimal cleaning approach is synergistic.Itcombinestheadaptable,detailedprecisionofhuman-operated, high-performance machinery – including advanced scrubbers and powerful Jetsteam/Jetvac systems – with the tireless, intelligent efficiency of autonomous robotics.

This integrated strategy promises not just a cleaner place; it meansasmarter,more cost-effective way to work. It enables healthcare leaders to reallocate precious human capital, streamline workflows, reduce operational costs, and bolster compliance. By embracing "THE FUTURE [that] LOOKS CLEAN," Australian healthcare facilities achieve a great return for their money, notjustinhygiene,butin operational excellence and, most importantly, in elevating care quality.

THE FUTURE LOOKS CLEAN

GREATER EFFICIENCY.
DEEPER CLEAN.
NEXT-LEVEL INTELLIGENCE.

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Floorbotics: Autonomous efficiency for large areas, consistent results, and significant labour optimisation.

Durable, hygienic protection for busy care environments

In hospitals, aged care homes, and healthcare facilities, walls and corners are exposed to constant activity.

Beds, trolleys, equipment, and wheelchairs can cause scrapes, dents, and chips that quickly make interiors look worn and unprofessional. At Protect-a-Wall, we supply wall and corner protection solutions designed to maintain a safe, hygienic, and visually appealing environment, essential for health and aged care settings.

Decades of experience in demanding environments

As a division of Walls & Floors Pty Ltd, we've spent more than a decade protecting the interiors of high-traffic facilities across Australia.

We understand the strict hygiene, safety, and durability requirements in the healthcare sector, and our solutions are engineered to withstand heavy use while blending seamlessly into your existing design.

Tailored protection for every space

We offer a wide selection of wall and corner protection solutions to meet the demands of care environments:

- **Polycarbonate Corner Guards:** Unbreakable, high-impact thermoplastic for maximum durability in high-traffic areas.
- **Textured Vinyl Corner Guards:** High-impact modified PVC, ideal for hospital corridors and aged care communal spaces.
- **Stainless Steel Corner Guards and Kickplates:** Sleek brushed finish, perfect for kitchens, service areas, and extreme protection zones.
- **Wall Protection Sheets:** High-impact PVC sheets in a variety of colours and finishes, with easy-clean, non-porous surfaces to support infection control.
- **Door Protection Panels:** Cut to size with DB sided tape attached for ease of Installation
- **Extruded Rubber Corner Guards:** Heavy-duty outdoor option to protect service entrances and external walls.

The clear choice for lasting protection

1. High-impact durability
Our products are built for demanding environments. Choose from high-impact resistant PVC wall sheets, unbreakable polycarbonate, textured vinyl, or stainless steel for maximum protection in high-contact areas.

2. Infection control friendly
Our smooth, non-porous surfaces are easy to clean and disinfect – helping you meet hygiene and infection prevention standards in healthcare environments.

3. Customised to fit your facility
Select from over 60 colours, multiple finishes, and standard or custom sheet sizes. We can precision-cut to suit corridors, patient rooms, nurse stations, or equipment bays.

4. Reduced maintenance costs
Preventing damage before it occurs means fewer repairs, less repainting, and lower maintenance costs over the long term.

5. Safer for staff and residents
Corner protection products help reduce injury risks by softening sharp edges, making them ideal for areas with mobility aids such as wheelchairs and walkers.

Protecting your facility, enhancing your care

Protect-a-Wall keeps your facility looking professional, safe, and ready for care day after day, year after year. Our wall and corner protection solutions work as hard as your team does, reducing maintenance costs, improving safety, and helping you meet the highest standards of care.

Start protecting your facility today. Call us for a consultation or visit www.protectawall.com.au to see how we can safeguard your spaces for the long term.

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HIGH IMPACT RIGID WALL, DOOR AND CORNER PROTECTION

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Ensuring precision in cleanroom airflow testing

Cleanrooms are engineered to do one thing exceptionally well: keep contamination out. Whether it's in pharmaceutical manufacturing, electronics assembly, or biomedical research, the integrity of the cleanroom environment depends on precisely controlled variables like airflow, pressure, temperature, and humidity. Among these, airflow testing is the foundation of cleanroom qualification and ongoing performance monitoring.

Getting airflow right isn't just about meeting compliance standards. It's about ensuring consistent product quality, process stability and most importantly … safety.

Effective airflow testing in cleanrooms goes far beyond surface-level checks. To build a complete picture, engineers and facility managers must assess:

- Supply airflow at the delivery point
- Return airflow at exhaust points
- In-duct measurements
- In-room airflow

Each of these measurement points demands specialised tools and techniques to deliver reliable, accurate measurements.

Supply air measurement is typically measured at air supply diffusers where a volume flow hood is used to capture and quantify the full airflow. These devices are designed to reduce turbulence-related error and should include:

- A correctly sized hood that fully covers the outlet
- An integrated flow straightener to stabilise readings

Properly executed, this method provides a solid baseline for how much clean, filtered air is being introduced into the environment.

Return airflow can sometimes be measured using a flow hood, particularly when return vents are located in the ceiling and the hood fits securely over the grille without any gaps. However, in many cleanrooms, return vents are irregularly sized or mounted on walls, making it difficult to use a flow hood effectively. In these cases, a vane anemometer combined with a sweeping technique is typically used.

Technicians can obtain a reliable average airflow reading by moving the probe in a systematic sweeping pattern across the return grille. It is critical that they maintain a constant movement rate to get an accurate average result.

Testing airflow within ductwork introduces another layer of complexity.

For reliable data:

- Measurements should be taken in straight, undisturbed duct runs at least 4 to 5 meters from bends, dampers, or fire flaps.
- A grid of velocity readings across the duct's cross-section should be averaged to ensure consistency.
- In turbulent or complex flow areas, non-directional velocity probes may provide a more realistic snapshot of actual conditions.

This level of detail is essential for diagnosing airflow imbalances and verifying HVAC system performance.

In fume cabinets airflow plays a direct role in user safety. If airflow is too low, harmful vapours and particles can escape. If it's too high, turbulence may send contaminants rebounding toward the user.

To ensure safe and effective containment:

- Take readings in a grid pattern across the sash opening to detect dead zones.
- Deploy a directional probe to mitigate the effects of cross-drafts and room interference, a specialised thermal anemometer is ideal due to the low air velocity typically found at the sash

Perhaps the most sophisticated area of airflow testing is the measurement of air velocity within the cleanroom itself. These tests are crucial for identifying airflow stagnation zones (dead-spots) areas where clean air fails to circulate effectively.

However, room airflow measurements are inherently sensitive. Even the presence of a technician can disrupt the airflow pattern. For accurate measurements:

- Use non-directional probes
- Follow a consistent, minimally disruptive methodology
- Avoid placing instruments near heat sources or moving equipment,

Regardless of where or how airflow is measured, success hinges on the use of calibrated, cleanroom-appropriate instruments. Whether handheld or stationary, tools must be:

- Suitable for the expected velocity range
- Recently calibrated to a traceable standard
- Operated by personnel who understand cleanroom dynamics

Ultimately, every reading hinges on properly calibrated, cleanroom-suitable instruments. The right tools and the right testing techniques don't just help with compliance. They protect your product, your process, and your people.

Download the full Cleanroom Airflow Testing Whitepaper from the Testo website.

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Engineering Dignity and Dependability: SOVA Mortuary Equipment Solutions

Behind every healthcare facility is a team of engineers and facility managers ensuring safety, efficiency, and dignity, even in the most sensitive environments. In hospital mortuaries, reliable equipment is not only about performance; it is about upholding respect and ensuring operations run smoothly under all circumstances.

Aidacare has a history of more than 30 years being trusted partner to Australia's healthcare sector, delivering equipment solutions built for durability, compliance, and care. Through its SOVA Mortuary Equipment, Aidacare provides a complete range of mortuary trolleys, lifting systems, and transfer solutions designed to support professionals who work in these critical spaces every day.

Precision Built for Purpose

Mortuary environments demand equipment that performs with quiet confidence. The Sova Motion range reflects that philosophy, engineered to provide smooth, precise movement with the strength and control required for safe, dignified handling.

From electric height adjustment and tilt functionality to stable castor systems and corrosion-resistant frames, every detail is designed for reliability and hygiene. These systems help reduce manual handling strain, streamline workflow and deliver the ergonomic benefits that engineers and clinical teams expect from modern facilities.

Every product in the Sova Motion range is made in Australia and constructed from premium materials that can withstand the demands of high-use environments. The designs incorporate smooth, easy-to-clean surfaces that support infection control procedures, while their quiet operation ensures discretion and professionalism in all settings. In short, these are systems created for both precision and peace of mind.

Supporting Healthcare Infrastructure Nationwide

Across Australia's public and private health sectors, the SOVA team partner with healthcare engineers, consultants, and procurement specialists to deliver fit-for-purpose mortuary solutions that align with facility standards and compliance requirements.

Every project, from regional upgrades to major hospital developments, benefits from Aidacare's national service network. Locally based technicians, service teams, and delivery specialists ensure prompt installation, maintenance, and ongoing technical support, while project managers oversee implementation to meet deadlines and quality standards.

This end-to-end approach allows SOVA to assist clients not just with product selection but with site integration, lifecycle maintenance, and compliance documentation, helping facilities meet AS/NZS requirements and operational best practice standards.

SOVA's reputation is built on reliability and responsiveness. With strategically located service centres across Australia, clients can count on timely repairs, spare parts availability, and technical assistance. This nationwide coverage means healthcare organisations receive consistent service regardless of their location.

Innovation Grounded in Real-World Use

SOVA's product development process draws on direct collaboration with healthcare professionals and engineers who work within mortuary environments. Their insights shape everything from user interface design to frame geometry and mechanical testing.

The result is equipment that performs flawlessly in daily use: durable, efficient, and safe. The Sova Motion system, for example, is designed to integrate seamlessly with existing infrastructure, reducing installation complexity while improving operator comfort and control.

Continuous feedback from users allows the design team to evolve, incorporating the latest technology to enhance safety and ergonomics. This commitment to innovation ensures its mortuary solutions remain aligned with the changing needs of hospitals and healthcare providers across the country.

This blend of engineering precision and empathy underscores SOVA's broader mission to deliver solutions that uphold dignity while improving safety and operational performance.

A Partner You Can Depend On

As healthcare facilities continue to modernise, the need for equipment that combines technical reliability with human consideration has never been greater. SOVA Mortuary Equipment provides exactly that, supported by decades of experience, a nationwide footprint, and a reputation for responsive, professional service.

For engineers and facility managers, partnering with SOVA means confidence in the product, in the process, and in the people behind it. From consultation and specification to installation and long-term servicing, SOVA delivers dependable solutions that make a meaningful difference in healthcare operations.

Discover the full Mortuary Equipment range, including the Sova Motion series, and explore how tailored solutions can enhance your facility's safety and efficiency.

Visit www.aidacare.com.au

Save money and benefit the environment

KAESER compressors and the compressed air they generate are used in a multitude of applications. However, the fact that compressor exhaust heat can be harnessed often remains forgotten. This opportunity saves energy and costs, while also reducing the CO^2 footprint.

100% of the drive energy supplied to a compressor is converted into heat. This heat could simply be conveyed away, however, there are plenty of ways to make use of this readily available energy source.

The simplest, most efficient method is to use the compressor heat directly. That is, air ducting directs the heat to neighbouring rooms or buildings.

In addition to providing space heating, hot compressor air can be used for applications such as drying processes, generating hot air curtains or preheating burner air for heating systems. Compressor exhaust heat can also be used to supply hot water heating and service water systems.

For more information about KAESER heat recovery : https://au.kaeser.com/products/rotary-screw-compressors/heat-recovery/

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For more information visit www.rapidtestsystems.com.au

Breathe Easier in Healthcare with Opira and Air Restore's UV Air Disinfection Solutions

In healthcare settings, where air quality directly impacts patient outcomes, infection control, and staff wellbeing, **Opira** and its sister company, **Air Restore**, are leading the way with advanced air purification solutions. The latest innovation? Air Restore now spearheads the installation of **Sanuvox UV air disinfection systems**, setting a new benchmark for cleaner, safer healthcare environments. **Sanuvox** is a trusted name in **UV-C technology**, offering a proven method for neutralising airborne pathogens—including viruses, bacteria, and mould spores—without the use of harsh chemicals. This makes it an ideal solution for hospitals, clinics, and aged care facilities where infection control, patient safety, and environmental responsibility are paramount.

With decades of experience in **HVAC hygiene** and **indoor environmental risk management**, the Air Restore team ensures each system is installed with precision and tailored to the specific needs of healthcare facilities. From operating theatres to waiting rooms, every installation is designed to support the highest standards of air quality, compliance, and performance.

This collaboration between Opira and Air Restore ensures **seamless project delivery**, **ongoing support**, and **robust quality control**, helping healthcare providers maintain a consistently healthy indoor environment.

While not mandated, Sanuvox systems offer a proactive and strategic approach to infection prevention—supporting safer spaces for patients, staff, and visitors alike.

Take the next step toward a healthier facility. Call Opira on 1300 157 969 to schedule a consultation and discover how UV air disinfection can elevate your infection control strategy.

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