

The 2020 Sustainability Digital Awards Gala

For the past 14 years, Architecture & Design magazine has run the Sustainability Awards – Australia’s oldest national sustainability awards program dedicated to rewarding excellence in sustainability across our built environment.

Along with that, we have also organised the Sustainability Summit, a full-day, CPD-point earning educational event that has now become one of the most sought-after annual CPD programs in the industry.

So while this year’s Awards and Summit programs did have their challenges due to the issues we are all experiencing in 2020, the fact remains, that for the first time ever, we managed to provide a digital-only event that was both amazing and highly-popular and one that was also unparalleled anywhere in the country.

On that point, for next year, the planning process has already started and what I can tell you, that as an organisation, once again, we will be forging ahead with an industry-leading

and best-in-class industry event.

So on that note, I’d like to personally thank you for your involvement and interest in our Sustainability Awards program, one that will always be dedicated to promoting sustainability and environmental consciousness in all its forms across Australia’s diverse and vibrant built industry.

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Q+A with Anthony Adamo

Australia has always had a love-hate relationship with the sun. Lots of sunny, clear, blue-sky days have built Australia's reputation as a top tourist destination while, simultaneously, creating devastating droughts, dangerous bushfire conditions and the highest rate of skin cancer in the world.

While most Australian's are 'sun smart' and remember to 'splish, splash, splosh' when on the beach, many are still completely unaware of the most effective ways to reduce the sun's heat, light and UV radiation in their own homes. In this Q+A session, Anthony Adamo, National Operations Manager for Verosol, tells us how he plans on changing that.

A&D: Hi Anthony – Can you please tell me a little bit about your role at Verosol?

AA: I've been with Verosol for 17 years now. That seems like a long time, but I've had multiple roles over the years, in many different areas of the business, so it's flown by. I'm currently the National Operations Manager, running the facility here in Sydney, but I've held positions across our technical

teams, automation and systems teams as well as product design. My current role still involves product design and it's an area I'm really passionate about. We're part of a bigger organisation, but our Australian division is focused on performance textiles, so we have a lot of fabrics that have solar optic-platforms, high-performing metallised fabrics.

A&D: Why is sustainability important to Verosol?

AA: Our product was invented in order to solve a widespread energy efficiency issue, so sustainability is at the centre of our existence. Our founder was a Dutch ship builder. He sailed into New York harbour in the 60s and was struck by all the glass-covered skyscrapers; he wondered how on earth these buildings were able to keep cool in such extreme sun

exposure and realised that they were all relying entirely on air conditioning. That was his epiphany moment. He went back to the Netherlands and invented the only purpose-built machine to metallise fabric. We still hold the world's best solar reflectivity on textile: 85% on our Silver Screen 202 range, the highest reflection of any fabric that's ever been produced. We all speak quite passionately about our products and believe every building in the world should have our blinds. I'm aware that that's a strong statement, but that's the difference we feel our products can make to energy consumption.

A&D: The last two Australian summers were the hottest on record. Have you seen a change in customer awareness, when it comes to energy efficient solutions like Verosol?



AA: Yes, but not as much as we'd like. I don't think heat has always been a catalyst for decision-making, but it should be. We normally see roughly half of our annual sales come in throughout the hotter, summer months, so reducing heat is definitely the driving factor. But there's still a dependency on air conditioning and, often, we find customers will consider far more costly and complicated options such, as solar panels to offset the energy consumption of their air conditioning, before more immediate solutions like ours, that can dramatically reduce heat and light coming into the home in the first place.

A&D: Why are you sponsoring this year's awards?

AA: Mainly to educate customers and raise awareness of the difference that products

like ours can make, when it comes to design more energy efficient homes and buildings. We have strong ethics – we don't target our competitors, we just focus on providing the best possible solution to an on-going problem. We want to be champions of the industry and we want to make the industry better. There are a lot of copycat products coming into the market that don't come anywhere close to us, in terms of performance, and there's a lot of misinformation in our market, so we're trying to help customers make the best decisions. We have a range of options and we focus on energy reduction, attributes, finding the perfect balance between blocking light while staying connected to the environment. We spend a lot of time inside our buildings, so it's about being comfortable and retaining outdoor views, while being smarter about keeping cool.

Smart Building Award Nominees



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Award Winner

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This home is the benchmark gold standard of building design within the country and features world-first heat pump technology as well as Australian first 3-phase hybrid smart inverters that integrate with not only the hot water system but are fully ready for integration with the future energy retail sector and localized energy trading schemes.



Intelligent design and collaboration

We regularly hear about Big Data and its relevance to smart cities and smart buildings. The promise of increased liveability, greater workability and enhanced environmental performance, underpinned by intelligent design has the potential to transform how we work, live and play.

Much is already underway as we see the growth in how AI, AR, VR and the Internet of Things (IoT), are applied to smart buildings and smart cities. Indeed Australia and New Zealand have a membership-based advocacy and education organisation solely devoted to the topic – the Smart Cities Council. Its mission sits within the context of the UN’s Sustainable Development Goals and is focused around envisioning ‘a world where technology and data have been harnessed to create smart, sustainable cities and communities with high-quality living and high-quality jobs’.

The need to get smarter in how we deliver cities, buildings and the manufactured products within, is essential to remaining competitive and productive while also meeting complex demands from end-users, facility managers and infrastructure providers.

The response in part will come through a novel consortia that is squarely focused on new technologies, data and productive collaboration. The Building 4.0 Co-operative Research Centre (CRC) has recently been awarded a \$28 million grant to focus on medium to long-term

industry-led collaborations that can assist in driving the growth of new industries.

The new Building 4.0 CRC has been developed by several key industry players as well as several universities, including the Lendlease Group, Monash University, Melbourne University, Bluescope and CSR. The Green Building Council Australia, QUT, Schiavello and Standards Australia are also partners in the new CRC. Over 30 partners will contribute an additional \$103 million to fund one of the most comprehensive smart building R&D programs ever established in Australia.

The Building 4.0 CRC has set several ambitious targets under key themes including:

- Energy—40% reduction in life cycle costs through high-performing, efficient buildings.
- Sustainability—Up to 50% reduction in CO₂ emissions for more sustainable buildings.
- Regulation—Improved policy and regulatory frameworks.
- Quality and Safety—Fewer defects & improved quality, customer satisfaction, safety and certainty.

Given that the Australian building and construction industry is a major economic engine and employer, the recent arrival of the Building 4.0 CRC makes sense and is timely. It contributes 13% of GDP and employs over 1.4 million Australians, so the need to be smarter and therefore more sustainable is an industry-wide imperative that holds transformative potential.

Better buildings that are intelligently designed will rely heavily on the design and engineering disciplines which reinforces the value and relevance of successful collaboration.

For more information: building4pointzero.org



Sustainability journey

For most organisations, the journey towards sustainability is exactly that – a journey. But for some, sustainability is their core purpose, the problem that their products are designed to fix – and for a select few, it's a problem they managed to solve on their first attempt.



In 1963, a Dutch shipbuilder, Cornelis Verolme, sailed into New York harbour and had an epiphany. The shoreline was filled with glass-fronted buildings, as far as the eye could see and, on such a hot, sunny day, Cornelis pondered the energy consumption involved in keeping these buildings cool. On his return to the Netherlands, he immediately set to work inventing the world's first fabric metallising machine and Verosol was born.

Here, Verosol's National Operations Manager, Anthony Adamo, reveals the advantages – and challenges – of being an industry innovator and what's next for the global leader in solar control fabrics.

LEADING THE CHARGE

It's fair to say that Verosol's founder was a true innovator. Not only was Verolme the first to come up with the idea of creating a metallised fabric specifically to significantly reduce solar light, heat and UV radiation entering buildings, but he used diving technology – a hyperbaric chamber – in order to invent the metallising machine. “He was an exceptionally intelligent man who had the foresight to see the potential of metallised fabric, even before energy efficiency was a major concern”, reveals Adamo. “That core value has permeated throughout our organisation, over the decades, and we see providing energy efficient cooling solutions as our priority. That has been, and remains, our company vision. Supporting sustainable practices is why our business exists”.

Since the launch of Verosol's first metallised fabric, the company has honed and refined its original invention while its competitors have failed to come close. Verosol's newest product release is its most exciting to date – 202 SilverScreen Performance, a fabric that boasts an unparalleled solar reflectance of 85%, the lowest-E (emissivity) rating and a much-coveted

Greenguard Gold certification. “We've managed to get to where we are today by always focusing on our original vision and trying to deliver the absolute best solution to customers”, explains Adamo. “We all speak very passionately about our products because we know they're the best and that, if every customer understood the energy-saving potential of our fabrics then they would only choose us”.

CUTTING THROUGH THE GREENWASH

Unfortunately, solving a major energy efficiency issue is only half the battle and educating customers has been Verosol's toughest challenge – especially in a market where greenwashing is rife.

“When you're the market leader, it's natural for competitors to try to copy your products”, Adamo reveals. “The problem comes when those products look the same but are fundamentally inferior and completely mislead and misinform customers about what they're buying. We've seen fabrics with a foil backing that looks similar to our fabrics but doesn't provide any of the reflective qualities – or customers being encouraged to select shutters that completely block out the sun, like a prison cell. Customers are bombarded with options and very few answer the genuine question of how to significantly reduce heat, light and radiation while still providing a view and that all-important connection to the environment”.

SCIENTISTS OF THE SOFT FURNISHINGS INDUSTRY

The heart of Verosol's challenge lies in its reputation as a technical, rather than a decorative, solution. “We're known as the scientists of soft furnishings – and it's true”, Adamo laughs “We invest heavily in research and development, with design teams, lab

teams, scientists and specialist machine operators. The problem is that, while that often makes us the product of choice for commercial projects with high green rating goals, it often means we're overlooked in the residential market where people consider blinds as a purely decorative decision”.

Despite the challenges of greenwashing, Verosol is very much staying true to its core values of innovation and continuous improvement. “We feel that motorisation, sensor technology and automation are the next big opportunities for us” Adamo reveals. “We can use this technology to create smarter buildings that can react to heat and light to offer optimum solar reflectiveness. Buildings that can manage their own cooling – we're really excited about the potential”.

THE NEXT STEPS

While the organisation has been working steadfastly to improve its product performance, it's already focused on the next steps towards sustainability. While its products are inherently sustainable in their ability to reduce the carbon emissions created by excessive air conditioning, its new focus is to maintain its product performance while removing any harmful materials or processes from its supply chain.

“We've reached the absolute peak in performance, so now we're focused on how we can do that while sourcing more sustainable yarn for our fabrics. We already invest in various sustainable initiatives and adhere to strict European standards, for our dye baths and minimising the use of toxic or non-degradable materials, but we want to make big changes, not marginal gains. We've been experimenting with aerospace design and even using glass instead of PVC, so for us it's just a matter of continuously experimenting and pushing the boundaries to find the absolute best solution”, Adamo explains.



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Mediated intelligence in design – from green to smart

Universities are often at the forefront of developing new ideas, methods and solutions. They are also well placed to challenge the norm and question whether ‘business as usual’ is meeting the expectations of society, especially when we discuss the built environment.

With an ability to freely to work across disciplines, industries, sectors and communities, universities are able to explore, create, critique and advocate independently without the influence of vested interests. In theory, this provides a fertile context for developing the best possible ideas and solutions to deal with some of Australia’s most pressing imperatives, especially in relation to liveability and sustainability.

The Lab for Mediated Intelligence and Design (MInDLab) at Deakin University in Geelong Victoria is one of these research hotspots, and smart urban ecosystems is squarely on its research agenda. The group is very much aligned to system thinking and design thinking.

It is a practice-based group that operates at the intersection of the Built Environment, Information Technology and Design Innovation. This is further reflected in some of their flagship research projects including:

- Smart Surfaces in Buildings – IoT enabled material intelligence
- Swarm Intelligence for Public Transportation: towards a de-centralised, self-organising system in smart urbanism
- Informed, Intelligent, and Connected – Extended Reality for the Design of Future Cities
- Place Making Using Virtual Environments

These projects reflect a strong interdisciplinary and transdisciplinary approach, which enable the potential of IT, intelligent data and digital media to ‘create more agile and adaptive solutions for socially, environmentally and economically viable built environment’.

In a recent article published by the MInDLab’s director, Professor Tuba Kocaturk notes that: ‘Technology plays a crucial role for this on-going exploration of the new values design can offer and in understanding the potential contribution of Architectural design to the emerging understanding of “sustainable development’.

It is research centres like Deakin University’s MInDLab that often provide the embryonic concepts that ultimately get developed for commercial application. Their website provides a glimpse of what they do, how they do it, with whom they collaborate. It also articulates their comprehensive commitment to research and innovation, industry engagement, and implementation and dissemination.

This is a research centre to watch as all sectors and industries seek to make the most of digital tools and solutions, including intelligent design.

More information: mindlab.cloud



KBMO

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202 & 205 SilverScreen Performance Fabric

As the sunniest continent on earth, glass plays an important part in Australia's modern architecture. With natural light in office buildings proven to be beneficial for health and wellbeing, glass continues to dominate our building façades.

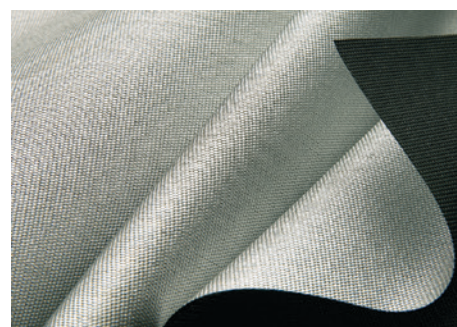
But, while air conditioning has enabled us to transform potential greenhouses into light-filled yet comfortable living environments, it also requires excessive energy consumption – the antithesis of sustainable building design. As developers come under increasing pressure to create greener buildings, simple yet highly effective energy efficient solution providers, such as Verosol, are finally getting the industry recognition they deserve.

As the global leader in solar control fabrics, Verosol's most recent innovation – 202 SilverScreen Performance semi-transparent metallised fabric – has already featured in some of Australia's most exciting and sustainable projects. Barangaroo Tower 3 – a stunning 39 level glass façade building in the heart of Sydney harbour, utilised SilverScreen 205 Performance, whilst Green Square Library – a 3,000 sqm glass-covered public facility, utilised Verosol's SilverScreen 202 Performance – in both projects, blinds have played a critical role in helping both buildings to remain cool while achieving impressive 6 and 5 Star Green Star ratings, respectively.

Developed in Europe, 202 & 205 SilverScreen Performance fabrics are world leaders in reflection and have already been awarded Greenguard Gold certification, with the ability to reflect up to 85% of solar heat and light combined with the lowest-e (emissivity) rating. Unlike other blind and shutter alternatives, SilverScreen fabrics also provide openness factors as low as 2%; meaning that customers can enjoy unparalleled heat, light and UV protection without compromising on views and the connection to the outdoors and nature that glass façades offer.

As well as being inherently flame retardant and anti-static, therefore dust repellent, SilverScreen fabrics are suitable for use in a wide range of blind options, including Roman, roller and panel glide, to fit in seamlessly with any interior design preferences.

For more information about Verosol's 202 and 205 SilverScreen Performance fabrics, visit verosol specifications.com.au



Smart landscapes designed for citizens

Is it possible to enhance public spaces, parks and gardens using digital technologies? Are we ready to introduce the Internet of Things in an otherwise tech-free zone where people go to enjoy various forms of passive and active recreation?

Subject to intelligent design, purpose and a focus on user-need and expectations, the answer is yes. We are already seeing how technology is helping us to optimise operational activities, conserve water and maximise energy efficiency, among a myriad of other activities and tasks.

The benefits are diverse when it comes to landscape, buildings and cities. Indeed the opportunities to create smart spaces and transform communities are endless and can include:

- emergency services and public safety – sensors and video technology to monitor and manage major events, traffic safety and allow improved emergency responsiveness.
- healthcare – high-speed video technology allowing improved connectivity to conduct diagnosis and treatment, real-time monitoring and warning systems; and smart cities,
- buildings and homes – sensors and systems that assist with navigation, finding services and facilities, monitoring outages, as well as maximising energy/ resource use and waste efficiency.

The City of Joondalup in Western Australia provides a real-world example of how local government is working with telcos to provide

innovative applications that a mobile-enabled society is increasingly asking for. The Internet of Things and its ability to support billions of connected devices worldwide is likely to positively reconfigure industries, sectors and communities, including local municipalities such as the City of Joondalup.

As part of a trial project, Joondalup has embraced the Internet of Things as a very specific strategy to create a ‘smart park’. By partnering with Telstra, the City was set specific goals aimed at transforming Tom Simpson Park, Mullaloo into a smart park by trialing the Internet of Things.

The Tom Simpson Park trial is a Proof of Concept highlighting the importance of having the right telecommunications infrastructure to enable unique applications. From an urban landscape perspective, the trial included several novel innovations:

- An IoT enabled smart car park connected to the Telstra mobile network that shows how many spaces are available to people travelling to the area, helping traffic flows during peak periods and summer holidays.
- Environmental sensors that monitor light, temperature, noise, humidity and pollution levels in the park in real-time.

- A smart bin solution with sensors on the 32 bins located in the park that notify the waste services team when bins need to be emptied. This means we can manage rubbish collection more efficiently and gain insights into which areas of the park are being more frequently accessed by the community.
- An analytics tool and dashboard that provides a real-time view of how the park and its infrastructure are being used. This helps us monitor park facilities and use resources more efficiently to allow the city to plan more effectively.

The trial demonstrated what is possible using digital tools, including IoT devices, to optimise the efficient use of resources and assets, monitor public safety and ensure infrastructure is used much more efficiently. Of course design plays a key role, as does the use of trial data to identify ongoing opportunities for improving public open spaces and parks across the municipality.

More information: exchange.telstra.com.au/iot-how-were-creating-australias-smartest-park/



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