



Sustainability

 Podcast Series eBook

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ARCHITECTURE
& DESIGN



Talking Architecture & Design continues to lead the way

According to IAB Australia's Online Advertising Expenditure Report, (in collaboration with PwC Australia), podcasting, advertising spend rose by 21.7%, bringing in \$AUD 99.1 million in 2023.

This is reflected in our Talking Architecture & Design (TAD) podcast, that just celebrated 220 published episodes, establishing itself as a key voice in the architecture and design community. Since its inception in 2018, the podcast has consistently delivered insightful and engaging content, featuring interviews with leading architects, designers, and industry experts from around Australia.

The success of TAD can be attributed to its diverse range of topics that have ensured the podcast has become a go-to resource for professionals and enthusiasts alike, offering deep dives into the creative processes and challenges faced by those shaping the built environment.

The podcast's ability to foster meaningful conversations has garnered a loyal audience. Its blend of expert knowledge, thought-provoking discussions, and real-world insights has set it apart in an increasingly-crowded podcast landscape.

Talking Architecture & Design remains committed to exploring the evolving world of architecture and design, ensuring that its listeners stay informed and inspired. This milestone of 220 episodes is not just a testament to its past success, but also a promising indicator of its future impact.

Enjoy the listen and the read!
Branko Miletic

How Moddex makes it easy to get it right with Sales Director Joe Rowland

Moddex “take the fear out of compliance challenges”, says company Sales Director Joe Rowland.

Joe describes Moddex as Australasia's leading and pioneering manufacturer of proprietary, no-weld handrail, guardrail, balustrade and barrier systems that are pre-configured and pre-engineered for structural integrity.

He says navigating compliance in the sector can be a real minefield so Moddex has “tried to really dumb it down, simplify it and make it easy to get it right”.

“The biggest challenge we see with ramps is they're not designed with the compliance of the handrail system. The base structure is inadequate for the load once you put the handrail on,” he explains.

This is what led Moddex to modularise the actual ramp substrate itself with a goal to have modular ramps delivered in 3 to 5 days anywhere in Australia.

Joe explains that Moddex systems are easy to specify, quick to install and are in high demand with 900 to 1000 metres of hand railing systems going out a day across Australia and New Zealand.

The modular system also lends itself well to a circular economy; something that is particularly noteworthy given that balustrades and handrails are often specified for shorter-term projects.

“There is a real opportunity that's created with a modular system to bring those castings and bring those systems back in and reuse them. With a traditional welded or fabricated system you're talking about cutting it up with an angle grinder or oxy torch. It's a messy process and it's a lot of scrap steel that can't be easily reused,” he says.

The modular system, on the other hand, can be pulled apart the same way as it is put together and then reused in another application.

Some iconic projects Moddex has been involved in recently include several rail and infrastructure projects such as the rail Level Crossing Removal Project in Victoria which will see 110 dangerous level crossings removed across Melbourne by 2030.

“They're going through taking out the old level crossings that are dangerous and taking the rail either above the road or under the road and with that there is a lot of infrastructure, concrete, pathways and handrails and barriers,” Joe says.

Right now Moddex is working on installing systems as part of the major MELconnx and METConnx projects in Western Australia involving lifting rail lines above the road and constructing the METRONET rail line circling Perth.

“We are really are custodians of public safety,” he says.

Going forward Joe says Moddex is looking to extend what they've created Down Under and take it to other parts of the world. They're also committed to investing heavily in technology within the business. This includes both systems and platforms they use inside the business to be efficient and deliver quickly. They are also investing in platforms that can extend outside the business to users of the product, allowing them to interact and go as far as designing certain elements of their projects.



Listen to episode here
bit.ly/TAD_E192



Joe Rowland | Moddex Sales Director.

Why Australia needs to be braver when designing cities

Well-designed higher-density cities are not only sustainable but can help generate a higher quality of life says Principal at Rothelowman Chris Hayton.



Chris Hayton | Principal, Rothelowman.

“When you’re building apartments in shopping centres it presents a considerable opportunity to evolve the city in a more mature way than what we have seen in Australian cities over the last 30 years,” Chris says.

“It’s good to see our sensibilities towards cities are moving from a quite compartmentalised approach to land use to one that’s more holistic and understanding of how density works and how people can live better in higher density cities,” he adds.

Rothelowman is known for such designs including the highly-acclaimed 229 apartments they designed across two buildings at the award-winning Burwood Brickworks just east of Melbourne’s CBD.

“The evidence is there through the outcome of Burwood and other places that people want to live in these precincts. I think all the buildings in Burwood have been very well designed”.

He comments that well-designed high-density cities are not as reliant on transport because fewer people need to get in a car to get to the shops and people are living closer to where they work.

Chris says while things are evolving in this style of design there is still a level of resistance against mixed-use developments in Australia.

“People will wax lyrical about a European city where they could walk downstairs from their Air Bnb for breakfast and everything they needed was on hand yet in planning discussions they’ll argue for the exact opposite”.

“We are not quite as mature yet in Australia in understanding the importance of the civic give of buildings. The way our codes are written and planning systems are written is very strong on the individual apartment or townhouse and is not quite as strong at understanding the collective power of a building”.

He reiterates that there are no cookie-cutter solutions because every development should generate a sense of place with specific qualities

people identify with and feel a sense of belonging to.

Chris says there also needs to be a reframe in the way we tend to talk about shopping centres as the town centre.

“It’s important as we provide higher density cities that we recognise the amenities people would like are less focused around shopping centres and more focused around leisure and parks”.

“There are some examples in Europe where shopping centres are becoming 50 % park 50% other land uses”.

He says another benefit of mixed-use developments is they may have a big role to play in addressing the housing crisis.

“We need to plan for more truly mixed-used precincts in our cities and change planning schemes to accommodate them and be braver or we won’t properly address the housing crisis we’ve run into in Australia at the moment”.

“The inertia we need to establish is to be braver with our cities and understand density isn’t a road to poorer cities it’s the opposite if you get it right”.



Listen to episode here
bit.ly/TAD_E206



The social value of architecture. Can you put a dollar value on wellbeing?

Well-designed built environments have the power to support environmental, economic and social wellbeing, explains Project Leader at Hayball Eilish Barry.

“Decades of research have shown that well-designed places increase people’s quality of life. Historically we have seen many places built without people in mind. There needs to be a new way of thinking,” she says.

While social value may seem somewhat intangible Eilish says it can be demonstrated in qualitative, quantitative and monetised terms and measured using project data and post-occupancy surveys.



Eilish Barry | Project Leader, Hayball.

“A really great social value element is ‘is the project within 400 metres from a sustainable transport node?’ That’s a really great benchmark we can use. Then we can then go deeper by talking to the people who actually use the building. How do they feel? What’s their sense of safety?... and then from all that survey data we can then use it in a calculation”.

Two of the most common ways to do this are through a cost-benefit analysis and social return on investment calculation. These monetised calculations measure the average amount of uplift in wellbeing created by an outcome and then calculate the average amount of income that it would take to create the same amount of improvement to someone’s wellbeing.

“It’s quite complicated but there are wonderful economists and data banks that are experts at doing this... There are mixed opinions on monetising social value but that’s often due to a lack of understanding. These widely accepted methodologies have been used by governments all over the world to monetise these non-market goods”.

“If we don’t monetise social value it’s often left out of the decision-making process. How often have we included a park or place to gather and its value-engineered out? How wonderful would it be if we knew the social value that was created by that park and could put a figure against it to use in discussions,” she says.

These concepts were put into practice when Eilish headed up a study looking at the social value produced in Nightingale Village Brunswick. The village is Australia’s first medium-density carbon-neutral precinct made up of six buildings designed

by six architects. Hayball was the executive architect across all the projects and the designer of the CRT+YRD building.

“I was asked to do a piece of research where we measured the social value that had been produced in CRT+YRD,” she says.

The 39-apartment resident block is focused on a residential courtyard. Financially they made the bold move to lose the core of the building to a courtyard space to foster a sense of belonging, enable cross ventilation for 100% of the apartments and allow for open circulation spaces. Community spaces were integrated around each of the six floors including a rooftop garden and a shared laundry.

A survey of the residents revealed that 83% of residents felt safer at the CRT+YRD than where they lived before and 93% of the residents spoke to their neighbours more.

The Australian Social Value Bank (ASVB) created a financial value for the wellbeing produced at CRT+YRD which was 2.24 million over four years.

“We’ve been able to link the design strategy we used to the actual outcome that was produced,” she says.



Listen to episode here
bit.ly/TAD_E209



Low carbon aluminium is on the rise with Jeff Morgan

Within the next decade low carbon aluminium will be the predominant form of aluminium we will be using, explains Principal at Hassell Studio and Chair of MECLA Aluminium Working Group Jeff Morgan.

Low carbon aluminium has a lower embodied carbon content compared to current global benchmarks. And while there is no set number of carbon intensity that defines low carbon aluminium, the target range is from anything below the Australian average of about 12 kilograms of carbon per kilogram of aluminium down to about 4 kilograms of carbon per kilo.

“However given some recent project examples I would certainly be targeting aluminium produced using hydroelectricity so down lower towards the 4 rather than that broader range of 12 to 4,” Jeff says.

He says this kind of aluminium is now starting to be offered locally through local extruders and fabricators like Capral and Alspec.

“Low carbon aluminium can be virgin or primary, produced using renewable energy sources like hydroelectricity rather than fossil fuels or it can be recycled or secondary aluminium, which again can be made using either fossil fuels or renewables, to further lower the carbon intensity”.

He adds that the lowest carbon products on the market that are fully recycled and produced using renewables have a carbon intensity near 0.

“So Hydro, one of the world’s largest aluminium producers... have just recently launched their latest and most advanced aluminium product called 100R which stands for 100% recycled”.

100R is an innovation that uses post consumer scrap that’s remelted into new, clean alloy.

Jeffs says aluminium is the perfect circular material as it’s infinitely recyclable without degrading in quality. When aluminium is remelted to make a

new alloy it only takes 5% of the original energy to make that new metal.

Making new aluminium, however, takes an enormous amount of energy. In Australia the four aluminium smelters along the east coast consume nearly 10% of the east coast electricity grid capacity alone. This is about to change with Tomago committed to running fully on renewables by 2025 and Rio Tinto signing Australia’s biggest renewable power purchase agreement to date.

“The aluminium industry knows that they have a high energy demand and they know that that energy is coming from coal and they’re looking for ways to decarbonise their energy”.

Jeff adds that through the MECLA working group they’ve heard and helped dispel a lot of common myths surrounding low carbon aluminium, including the myth that recycled aluminium is inferior to its virgin counterpart.

He says the automotive industry has been quick to understand the value in sourcing low carbon aluminium with the likes of BMW, Audi, Mercedes Benz, Tesla all purchasing low carbon aluminium and marketing that within their vehicles.

“The most well known company to use low carbon aluminium and a fair amount of it is Apple. It’s used in nearly all of their phones, watches and ipads. Last year they unveiled their first carbon neutral product”.

“Aluminium is used everywhere in our day to day lives from buildings to cars and phones. Low carbon aluminium in the construction sector in Australia is really just starting to emerge”.



Jeff Morgan | Principal, Hassell Studio.



Listen to episode here
bit.ly/TAD_E215



The importance of social and financial sustainability housing with Gabrielle Suhr

Studio Associate at SJB Gabrielle Suhr was the project leader for Nightingale Marrickville which has gone on to take out the Premier's Prize at the 2024 NSW Architecture Awards.



Gabrielle Suhr | Studio Associate, SJB.

She says what makes the Nightingale model so special is that it isn't about profit.

"Taking profit out of property is really important," she says.

"The focus was about creating communities and great places to live and I haven't met a person who doesn't love their nightingale apartment".

Gabrielle says apartment design has been quite static for a number of years and she'd like to see more flexibility in this space.

"It's been assumed we all want extra bedrooms, we all want laundries and we all want a ceiling," she comments.

Yet, the end users of Nightingale didn't necessarily want any of those things. Through consultation with the community SJB discovered that what they really wanted was simply services that worked.

"So anything that could be shared was shared," Gabrielle says.

While Gabrielle would like to see design becoming more community minded, she worries that the pandemic has led people to want the exact opposite.

"I've noticed a particular focus on making sure you've got everything that you need in your house," she says.

"In a way I feel like people are wanting bigger homes. They don't want to be with the public anymore. They want to have theatres at home, they want to have wellness spas at home."

"Hopefully a focus on community can reverse that and help let go of that fear so much because I definitely think to be sustainable we need to reduce our footprint. There are too many houses in Sydney that are vacant or only have one or two people living in them".

When it comes to sustainability in construction, she says it's "a slow process to legislate".

"Sustainability as a checklist of requirements can be fundamentally very expensive hence why it's such a slow moving beast most of the time"

When looking at the future of residential design Gabrielle says we need to face up to the amount of carbon we are using.

"I definitely think that is the direction for our industry to actually start counting carbon and controlling carbon in a very meaningful way. I think there will be a lot of work done in this space. We will be able to go back to the fundamentals of architecture and find that there are clever ways we can actually design to decrease the use of carbon in our projects".

She notes that the definition of sustainability is diversifying beyond just selecting products known to be more sustainable or that are made in a sustainable way.

"I think we will actually be able to expand on sustainability to deal with projects that are financially sustainable as well as environmentally sustainable".

She is also really interested in social sustainability and making sure that buildings are used how they were intended and therefore they are loved.

"When buildings are loved they're used for a long time and they're looked after; so the maintenance of buildings means that ultimately you build once which is the most sustainable outcome".

Gabrielle Suhr, Studio Associate at SJB, led the Nightingale Marrickville project, winning the Premier's Prize at the 2024 NSW Architecture Awards. She emphasizes that the Nightingale model prioritizes community and functional living over profit. Suhr advocates for more flexible apartment designs and highlights the importance of reducing carbon footprints and embracing broader sustainability.



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bit.ly/TAD_E219



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