INTERIOR FITOUT

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Transforming Spaces: The Tech Behind Cutting Edge Fitouts

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The tech connection

MACHINERY AND SOFTWARE GO HAND IN HAND AS LONG AS THEY'RE COMPATIBLE, EFFICIENT, AND USE THE LATEST TECHNOLOGY.

STORY: MARION GERRITSEN

Monash University researchers have found that manufacturing businesses who adopt circular economy (CE) strategies and practices can reduce manufacturing waste by 65 per cent.

Australia's manufacturing sector contributes significantly to waste generation, producing nearly 13 million tonnes of waste nationwide.

Jardan, an Australian family-owned high-end furniture business reduced its manufacturing waste by 65 per cent by adopting CE strategies.

The business strives to make products sustainable throughout the entire lifecycle. It has adopted numerous circular economy practices including sourcing over 75 per cent of their materials from Australian suppliers, designing products for longevity and reducing its energy consumption by 17 per cent.

Professor Sohal says examples such as Jardan shows what could be achieved when CE practices were championed.

"CE focuses on optimising resource utilisation, grounded in the belief that the economic system already possesses sufficient resources," he says.

"By enhancing resource efficiency, the goal is to decouple the economic system from resource extraction and waste generation, while extending the lifespan of resources to their maximum potential."

Based on the experiences of the leading businesses involved in the study, researchers suggest the following strategies can help manufacturers adopt CE practices:

- Build circularity into the design of the product, including using alternative/recycled materials
- Take a 'systems' approach and build circularity into the whole supply chain
- Ensure the financial viability of the business model
- Be transparent and genuine in what you do in the CE space
- Help people understand the value of what they are contributing to
- Create networks of like-minded communities by collaborating with others and sharing best-practice knowledge.

While machinery is a big part of the manufacturing process and therefore sustainability journey, it is the software that runs those machines which has an important role in making sure it all runs smoothly and efficiently.

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LEFT Recycled building materials are vital for a circular economy, reducing waste and promoting sustainability in the construction industry.

Manufacturers are looking for software that gives them the best business analytics and competitive edge, however, the biggest challenges they face when selecting software are identifying the best technology and its compatibility with their existing systems.

As the construction and fitout industries evolve, it's crucial for companies to stay ahead by adopting the right technology, says Nexvia's Shakila Ikonomou.

"Investing in software that grows with your business not only increases efficiency but also positions your company for long-term success. At Nexvia, we're committed to providing solutions that help our clients navigate the complexities of modern construction management, ensuring they can adapt to industry changes and continue to thrive."

Digitisation has become the norm in the shopfitting industry, comments Flexijet's Peter Zoumboulakis.

From CAD design to factory production, those that have not embraced it will undoubtedly be at a disadvantage. The site survey component of shopfitting and joinery projects, however, is still being undertaken by many using slow manual methods. Site measuring using a tape measure or handheld laser devices is slow and prone to errors and missed measurements. Then manually recording this data with pen and paper and then having to draw it up in CAD further compounds inefficiencies and risk of errors, he explains.

"Digitising this process is crucial to improve efficiency and accuracy. Flexijet 3D has been specifically developed to meet the requirements that make site surveys quick and accurate and draws the CAD model in real time while you are capturing your measurement data. While still on the work site, you can even email your final drawing back to the office so that your CAD designers can begin work well before you return to the office."

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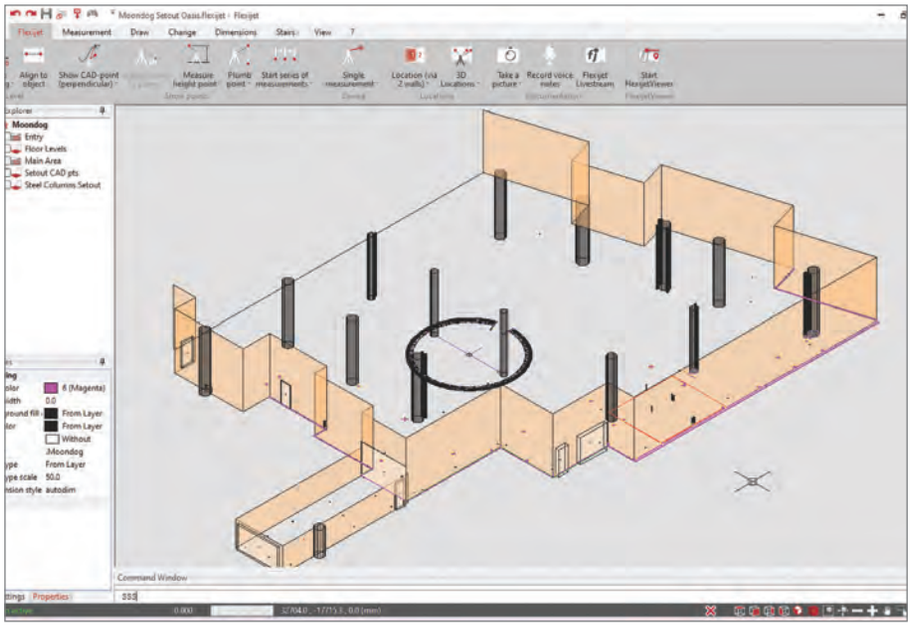

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FlexiCAD from Flexijet helps bring Moondog Restaurant in Victoria's Docklands to life.

As younger generations enter the workforce, there is an expectation that businesses will already have foundational technologies such as construction management software and mobile apps in place.

For Ikonomou, the trends are clearly leaning towards increased digitalisation and integration as companies realise the critical role of technology in supporting business growth. As younger generations enter the workforce, there is an expectation that businesses will already have foundational technologies such as construction management software and mobile apps in place.

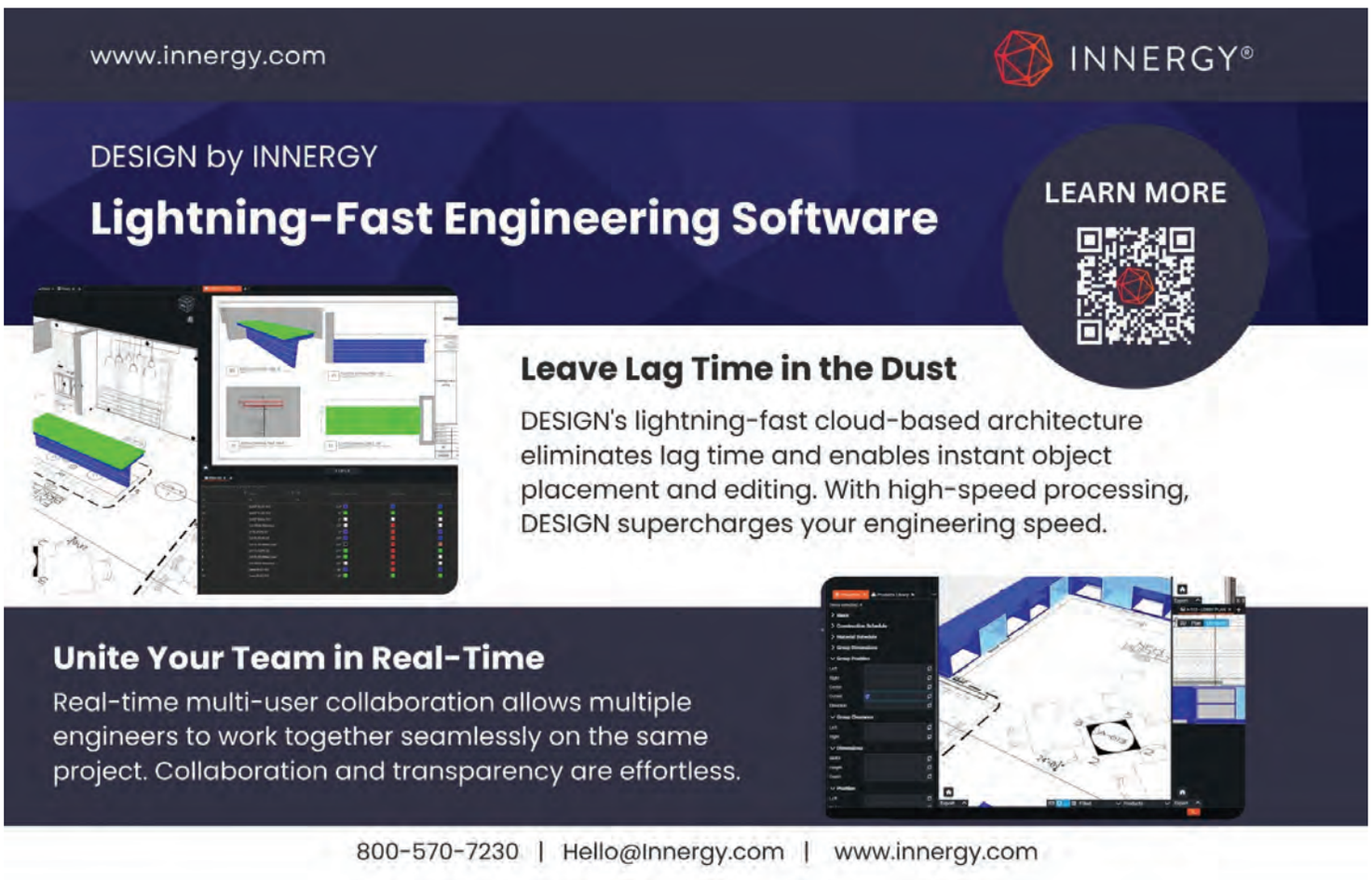
Companies are seeking software that not only helps them streamline processes and manage projects more efficiently but also provides real-time data and analytics, enabling better decision-making, visibility and mobility. There's a growing emphasis on cloud-based platforms that offer accessibility and flexibility, allowing teams to collaborate seamlessly from any location.

Pytha's Michael Rowe agrees that we're definitely seeing more software moving to the cloud and becoming accessible online, but there's also a growing trend of plug-in software that's tailored for specific products or markets. While these innovations make things easier for users, particularly for customising production methods, people require some investment of time to learn to use them effectively.

AI technologies continue to make waves and it's likely we will see a rise in its integration into construction management tools in the coming years.

"AI is still getting started in our industry and it's definitely going to have an impact," adds Rowe.

"We're looking at using AI to speed up the drawing process, though it comes with challenges, especially with the level of detail required to manufacture. We've started adding some essential AI features to Pytha to automate tasks and we'll keep improving this as AI learns more about our software. For software applications AI needs time to learn in the same way humans do."



Ikonomou adds that while AI has the potential to revolutionise project management in the construction industry, offering significant efficiency gains, trust remains a major barrier.

“Many see AI as an opportunity, but others are concerned about data security and the accuracy of AI-generated insights. At Nexvia, we're closely monitoring AI industry leaders to see who emerges at the forefront, evaluating how AI can be adapted to add value to our software and clients. We would need to be 100 per cent certain that trust and security are fully ensured before implementing any AI solutions.

“However, we expect software to become even more integrated, with machine learning driving smarter automation and more informed decision-making. But challenges such as a lack of digital skills, rising technology costs and tighter budgets–especially amid an anticipated global economic slowdown–could limit companies' ability to invest in new solutions.”

As digital adoption accelerates and client demands increase, upskilling employees and understanding how these technologies streamline workflows will be essential. Balancing innovation with security will also be critical, as businesses need to trust the accuracy and transparency of AI data before fully embracing it. Ensuring that evolving technology remains accessible and user-friendly for businesses of all sizes will also be key.

“Security is a top priority in software development, especially with the increasing sophistication of cyber threats. For Nexvia, this means adopting a proactive approach to cybersecurity, which includes implementing advanced encryption methods, regular security audits and continuous monitoring for vulnerabilities. As part of our development process, we also adhere to strict security protocols and are constantly updating our systems to counter emerging threats. We also believe a holistic approach is crucial and companies should be actively educating their teams on best practices to ensure data security across all areas.”

However, increased cyber threats mean companies are tightening security, which sometimes makes it initially challenging to install new software. We often require our customers to provide special access prior to being able to troubleshoot an issue, says Rowe.

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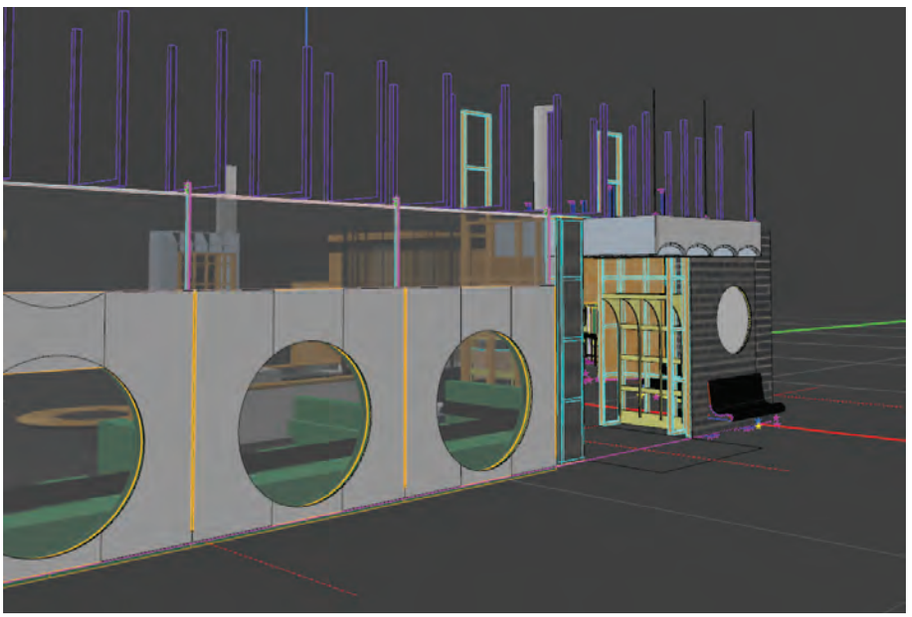

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Transforming vision into reality: Inari’s stunning design realised with PYTHA 3D CAD, by KSH Shopfitting.