![Bentley - Advancing Infrastructure]

WSP Australia Drives Innovation in Enterprise Engineering to Meet Evolving Industry Demands

ProjectWise® and iTwin® Facilitate Data-centric Workflows via Digital Twins for More Intelligent Sustainable Infrastructure

SEARCHING FOR DATA-CENTRIC PROJECT DELIVERY METHODS

WSP Australia is committed to providing a transformative enterprise engineering journey by building trust in digital applications and processes to optimize project delivery across all business sectors. The organization embraces the latest technologies, fostering a culture of innovation. "There is a growing need for integrated digital solutions on major infrastructure projects, with all participants seeing increased efficiency, collaboration, and reduced cost," said Alexander Yammas, regional digital engineering lead at WSP. The organization initially embarked on their digitization initiatives back in 2017 when they were faced with disparate information and project management hurdles. At that point, they introduced ProjectWise on a project-by-project basis and, in 2021, utilized the application to link multisourced data and 250 team members on their Port Rail Transformation Project (PRTP) in Melbourne, Australia.

"Fast forward to 2023, ProjectWise has become a business-as-usual application that is employed in over 150 active projects, with more than 2,000 active users," said Bob Freeman, WSP's information management lead. Now with digital twins and artificial intelligence (AI) at the forefront of delivering intelligent infrastructure, WSP is seeking to implement smart, data-centric digital workflows and strategies to make better decisions and deliver better outcomes. WSP is prioritizing this organizational shift, harnessing the power of cutting-edge technologies to implement a holistic approach, streamlining data management and workflows within the transportation division while supporting widespread intelligent digitization in enterprise engineering.

BRINGING TOGETHER INFORMATION IN A CONNECTED DIGITAL ECOSYSTEM

As the scale and complexity of projects increased, the limitations of WSP's disconnected data management methods—basic network drives and large folder structures—became more evident, as they lacked consistency and efficiency. "The limitations of the previous approach became evident as the number of projects and users grew. It was challenging to maintain version control, track changes, and ensure data integrity across multiple teams," said Freeman.

With information siloed, scattered, outdated, and inaccessible, collaboration and decision-making were extremely hindered, resulting in project delays and increased costs. "To overcome these challenges, WSP sought a comprehensive solution that could streamline information management and facilitate efficient collaboration," said Yammas. Recognizing the pivotal role of effective information management and the inadequacies of previous technology methods, they needed to establish a connected digital ecosystem, facilitating real-time data integration, visualization, and coordination. They also realized the importance of change management. Therefore, they needed to build trust in their new digital workflows across all business sectors.

DEVELOPING A DIGITAL TWIN FRAMEWORK

The adoption of ProjectWise provided a transformative shift from disorganized folder structures to a streamlined information management system. "After careful evaluation, Bentley applications, particularly ProjectWise

and the iTwin Platform, were selected to address project data management needs and requirements," said Yammas. Using Bentley's digital collaboration platform, WSP established a centralized document repository, facilitating coordinated, standardized workflows and effective version controls. Project teams could easily access, share, and collaborate on all project data in a secure and structured environment, mitigating risks associated with data silos and outdated information.

portfolio," said Yammas. Using the PRTP as a digital-centric case study, WSP also saved 300 resource hours, reducing rework.
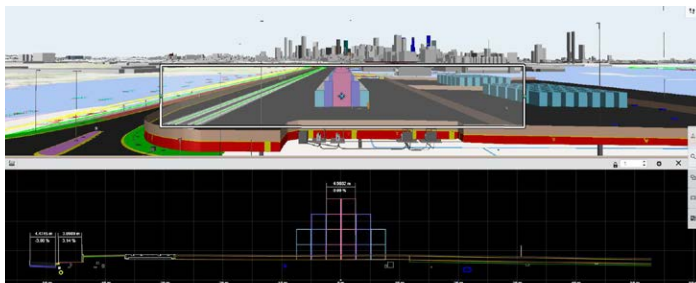
WSP Australia sought to utilize cutting-edge technology to streamline data management while building trust in new digital workflows.

and analysis. Together, Bentley's applications provided the digital framework to collaborate live using digital twins to perform coordinated visual model reviews with all stakeholders on a weekly basis, identifying and resolving any issues virtually, prior to on-site works. The collaborative digital solution automated and streamlined data integration and workflows, facilitating an agile, data-centric management approach and intelligent project lifecycle processes. "With the combined power of ProjectWise and iTwin, WSP effectively addressed complex engineering challenges by promoting collaboration, enhancing decision-making processes, and delivering superior project outcomes," said Freeman.

SAVING SIGNIFICANT TIME WITH DIGITAL TWINS FOR INDUSTRY SUCCESS

By transitioning to ProjectWise, WSP significantly improved data management, reduced errors, and enhanced productivity across the organization. Meanwhile, iTwin allowed for comprehensive digital twin capabilities,

While ProjectWise offered a structured and streamlined environment for managing project information, integrating iTwin further enhanced WSP's data sharing capabilities, enabling real-time collaboration, visualization, and analysis.

By prioritizing change management and building trust in the new digital applications, WSP has fostered a culture of confidence and openness toward embracing digital technologies; and PRTP has set the benchmark, demonstrating the tangible outcomes of digitization. "Recognizing the need for change management and building trust in the software and processes, we have effectively harnessed the power of digital technologies to enable a seamless shift towards a digital-centric approach across multiple projects, with the PRTP serving as a notable example," said Yammas. In the context of enterprise engineering, integrating digital workflows across WSP's national business portfolio has been instrumental in driving their successful digital transformation. "The digital transformation has enabled us to adapt to evolving industry demands, leverage emerging technologies, and drive innovation in enterprise engineering," said Yammas.