Bentley®
Advancing Infrastructure

ProjectWise®, Powered by iTwin®

Creating Data-centric Solutions for the Rail and Transit Industry

Bentley has extended the digital capabilities of ProjectWise, now powered by iTwin, from engineering work-in-progress to full digital delivery for more efficient, collaborative, and sustainable rail infrastructure design, construction, and operations.

Rail network operators face unprecedented challenges from complex projects that often take years or even decades to deliver while facing workforce skill shortages, as well as the need to demonstrate that they are meeting mandates for carbon reduction.
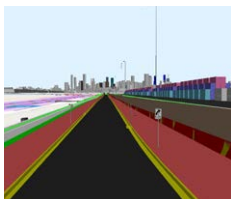
IMPROVE PRODUCTIVITY
The need to manage multiple projects to improve passenger service and enhance capacity, as well as increase reliability and add resilience to the network, means operators and their supply chains are under pressure to do more work within tighter timescales.

INCREASE EFFICIENCY
To increase efficiency, teams need to readily share information and data that they can trust is the latest version, as well as embrace digital delivery to improve collaboration and transparency across often large and disparate teams.

INTERDISCIPLINARY COLLABORATION

When the Port of Melbourne initiated the Port Rail Transformation Project (PRTP) to improve rail freight access across the Australian state of Victoria, they selected WSP to design and build a new rail terminal, as well as upgrade existing lines and connections. Given limited time and a dispersed, multidiscipline team, WSP chose to leverage ProjectWise and iTwin technologies to establish an integrated digital environment that resolved 3,200 issues throughout the preliminary and final design phase, saving 475 hours and realizing a total return on investment of 67.31%. *View Project*

ACCELERATED DESIGN REVIEWS

Arcadis, as part of the Rail Systems Alliance in Scotland, undertook the Carstairs remodeling scheme that has been notoriously challenging for their client Network Rail. They needed to upgrade and electrify the junction and track while keeping it operational. The team involved 101 designers from eight companies, so they chose ProjectWise with iTwin, enabling web-based interdisciplinary project reviews for the Rail Systems Alliance and introducing new digital ways of working across the supply chain. They resolved over 13,000 clashes and optimized the design while reducing the modeling time by 35%. *View Project*

LEVERAGE INSIGHTS FROM YOUR DATA

The USD 7 billion Metro Manila Subway is the first underground mass transit system in the Philippines. Oriental Consultants Global was hired to manage the complex project and wanted to digitize data and workflows throughout the lifecycle. The project team used ProjectWise to develop a common digital engineering system and a single source of truth, successfully managing 11,300 documents and 183 BIM models. They saved USD 1,000 per month on storage costs, as well as providing a platform for a digital twin of the railway for future operations and management. *View Project*

OUR RAIL AND TRANSIT USERS HAVE REALIZED THE FOLLOWING BENEFITS:

67%
RETURN ON INVESTMENT[1]

35%
REDUCED MODELING TIME[2]

$1,000
SAVED PER MONTH ON STORAGE COSTS[3]

[1] Melbourne's Port Rail Transformation Project, WSP
[2] Carstairs, Arcadis
[3] Metro Manila Subway Project (MMSP) - Phase 1, Oriental Consultants Global

HOW CAN PROJECTWISE, POWERED BY ITWIN, HELP YOU...

IMPROVE COLLABORATION?

- Create and synchronize data with multidiscipline teams during the design lifecycle to minimize project risk early on and resolve issues with collaborative interdisciplinary design reviews using our digital twin technology.

- Securely share large datasets, 3D models, and 2D deliverables with the entire project ecosystem, regardless of authoring applications, facilitating early supply chain involvement to ensure best practice and value.

- Collaborate with supply chain partners using clearly defined data access, roles, and tasks lists to maintain consistency across fluid teams.

ACCELERATE DESIGN REVIEWS?

- Leverage visualization capabilities to communicate design intent and gain stakeholder buy-in.

- Use ProjectWise Components Center, a cloud-based library of digital objects, for regularly encountered assets, such as an over-bridge or gantry, before inserting it within a design model. It can then be shared in another application, such as OpenRail™ Designer, to reduce the design time from days to hours.

- Bring real-world context to your projects by combining engineering and reality data in your models. Designs can be quickly optimized and validated with reviewers performing virtual interactive walkthroughs, driver training simulations, querying model information, and analyzing embedded property data by simply using a web browser.

LEVERAGE INSIGHTS FROM YOUR DATA?

- Share knowledge and best practices across your portfolio, not just your project, elevating it to an enterprisewide system for maximum efficiency.

- Enforce information standards, such as ISO 19650 BIM, right from the start, with automated workflows and processes, reducing the need for manual interventions and ensuring consistency of information.

- Drive efficiencies and savings by making the right decisions faster with the right data that is easy to find and analyze.

- Select quality assured components from the ProjectWise Component Center based on whole life costs, as well as incorporate their data into carbon dashboards to track net-zero goals, dramatically increasing the efficiency, safety, and quality of projects.

TO LEARN MORE ABOUT HOW OUR USERS HAVE REALIZED THE BENEFITS OF PROJECTWISE, SCAN THE QR CODE OR VISIT https://qrco.de/be8hbB

Bentley®
Advancing Infrastructure

FIND OUT MORE AT BENTLEY.COM

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