



ProjectWise Construction Work Package Server

Enable More Predictable and Consistent Construction Using Work Packaging Methodology – Industry-standard Practices that Increase Safety and Reduce Total Install Cost

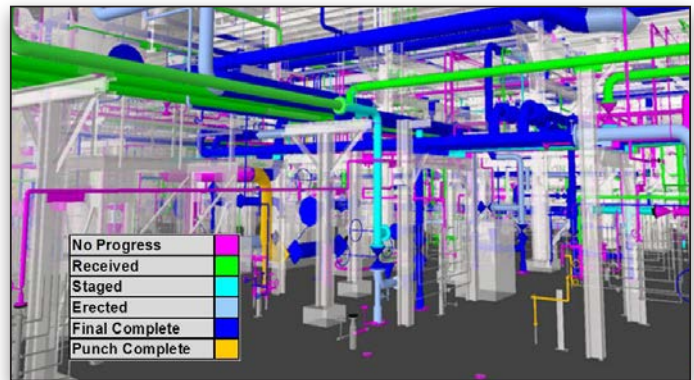
By using ProjectWise Construction Work Package Server, constructors can overcome the challenges that contribute to overruns in cost and schedule, expensive rework and safety problems, and be able to:

- **Lower total install cost** by decreasing down time, reducing craft labor hours, and better aligning engineering and construction
- **Enable predictability** by anticipating project changes and removing constraints
- **Reduce risk** by gaining understanding into the precise state of the project through improved visibility
- **Increase profitability** by streamlining information management and reducing management staff
- **Improve owner satisfaction** by providing unprecedented insight into real-time project performance
- **Expand safety** by better organizing resources and more effectively communicating with and informing supervisors and crews

Technology That Facilitates Predictability and Visibility, Operational Efficiencies, and Preferred Outcomes

Work packaging is about breaking down construction into manageable tasks. Work packaging is done on all projects, even if it's not specifically referred to in such a manner. The problem is that the process is done differently by each company and on each project. It's not repeatable and the inconsistency from project to project breeds inefficiency. That's why the Construction Industry Institute (CII) and the Construction Owners Association of Alberta (COAA) have developed industry-standard work packaging best practices. And when testing these standardized practices on actual projects, they've found that they increase safety and reduce total install cost by as much as 10 percent. ProjectWise Construction Work Package Server makes it easy to implement industry-standard work packaging to make construction more consistent and predictable through:

- **Comprehensive Construction Information Management**
Better construction management starts with better information management. This innovative system consolidates the models, drawings, and construction information necessary for installation – regardless of source system used – into a concise location and manageable format to eliminate information overload as well as facilitation of task automation and better decision making.



ProjectWise Construction Work Package Server, the first commercial off-the-shelf system for enabling more consistent construction via industry-standard work packaging processes, provides unprecedented visibility into construction – including 3D status visualization.

- **Automated Work Packaging**
Through a convenient web-based interface, industry-standard-based work packages can be easily generated, managed, edited, and distributed, leveraging the most up-to-date and interrelated information on workflow and material status to maximize productivity.
- **Holistic Project Dashboard and Reporting**
Key performance indicators are highlighted via a succinct project dashboard that allows constructors to know the precise status of a task or project at any given time, identify constraints before they hold up work and generate informative reports to keep project stakeholders up to date and in the loop. In addition, real-time status updates are also provided in a color-coded graphic manner that provides even deeper project awareness.
- **Immersive Planning**
ProjectWise Construction Work Package Server also allows project teams to visually plan using the ConstructSim dynamic virtual construction model (VCM) software that reflects the actual “to be constructed” environment, and allows work packages to be created directly from a visual representation of the project.

Relationship and Change Awareness – Benefiting EPCs, General Contractors, and Owners

For constructors, ProjectWise Construction Work Package Server also facilitates improved understanding of the impact of change on interrelated aspects of the project, helping them to proactively make adjustments before issues occur. And owners can better measure CAPEX performance and manage their contractors by gaining insight into real-time project performance.

System Requirements

Servers

Database, Application, and Web Server:

- Hardware Requirements: 64-bit, four-core processor, 16 GB RAM, 500 GB of free hard disk space
- Software Requirements: Microsoft SQL Server 2008 R2 SP2 x 64 or Microsoft SQL Server 2012 SP1 x 64 (plus Internet Information Services 7.0 or greater for the web server)

Data Processing

- Hardware Requirements: 64-bit, four-core processor, 16 GB RAM, 500 GB of free hard disk space
- Software Requirements: Microsoft Windows 7 x 64, Microsoft Office 2010 x 32

Clients

ConstructSim

- Hardware Requirements: 64-bit, two-core processor, 4 GB RAM, 20 GB of free hard disk space
- Software Requirements: Microsoft Windows 7 x 64, Microsoft SQL Express Advanced 2008 R2 x 64 or Microsoft SQL Express Advanced 2012 SP1 x 64

Web Access

- Hardware Requirements: 64-bit processor with 4 GB of RAM, or Apple iPad 2 or greater
- Software Requirements: Microsoft Windows 7 x 64; Internet Explorer 9, 10, or 11; Firefox 21.0; or Safari 6.0.4
- Web access also supported on most tablets

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Contact Bentley

1-800-BENTLEY (1-800-236-8539)
Outside the US +1 610-458-5000

Global Office Listings

www.bentley.com/contact

ProjectWise Construction Work Package Server At-A-Glance

Common Construction Information Management

- Consolidation of all of the files and information relative to the project, regardless of type or format, into one secure location
- Automated publishing of the Virtual Construction Model (VCM) to i-models for desktop and tablet review
- Support for all leading industrial design systems, including AVEVA PDMS; Bentley PlantSpace, OpenPlant, and AutoPLANT; Intergraph SmartPlant 3D and PDS; as well as support for detailing software including Intergraph ISOGEN and SPOOLGEN, Bentley ProStructures, Tekla Structures, and others
- Searchable metadata to find the correct documents and information
- Management and display of the relationships between documents, materials, work packages, components, and drawings
- Role-based user access control
- Support for multiple projects and cross-project reporting rollups
- Web-based interface for simplified deployment and access
- Enterprise data integration framework for systems integration with estimating, document control, materials management, and scheduling systems
- Mobile applications for access from the field and on-the-go

Automated Work Packaging

- Creation, publishing, editing, management, and distribution of work packages
- Immersive true-construction 3D model environment for work package development and status reporting
- Corporate, project, or regional-specific unit rate flexibility for all disciplines
- Support for graphical and non-graphical work packaging
- Out-of-the-box work package development support for:
 - » Concrete
 - » Piping
 - » Cable and cable tray
 - » Electrical
 - » Instrumentation
 - » Structural steel
 - » Equipment
- Ability to add custom disciplines and activities for work packaging
- Automated aggregation of files for work package assembly

- Engineering work package control:
 - » Create and control engineering deliverables
 - » Manage revisions to engineering content
 - » Manage related construction work packages (CWP)
 - » Automatically extract data from and manage any project list
 - » Search all engineering work package (EWP) content:
 - Documents
 - Engineering components
 - EWP
- Construction work package, installation work package (IWP) and testing work package (TWP) services:
 - » Creation and management from the web or 3D model
 - » Quantity and quantity trending reports
 - » Automated extraction of source drawings and related documents
 - » Change awareness and management of related work packages
 - » Automated tracking of tasks, hours, and quantities
 - » Field progress management
 - » Automated productivity factor (PF) calculation by work package
 - » Assignment of key personnel to the packages
 - » Key metrics reports

Holistic Project Reporting and Insight

- View project status from a web-based dashboard
- Create reports and dashboards using Microsoft SQL Server Reporting Services
 - » Color-code 3D model by custom project statuses
 - » Represent model by:
- Create project and program-level reports
- Generate and distribute custom reports on variances, status, testing, and more
- Present and analyze data
 - » Color-code 3D model by custom project statuses
 - » Represent model by:
 - Turnover system
 - Construction work area
 - Components
 - CWP
 - IWP
 - Material size
 - Other custom indicators
- Animate construction schedules