Bentley®
Advancing Infrastructure

CONNECT Edition

ConstructSim Planner

Improve Workface Planning and Control with the Leader in Virtual Construction Simulation

ConstructSim Planner delivers powerful virtual construction simulation for WorkFace Planning on large projects. ConstructSim, including Planner and Work Package Server, provides construction management the visibility needed to rapidly and effectively respond to project issues to increase productivity, drive down costs and reduce project cycle time, while providing improved risk mitigation and team safety.

Integrated Modeling and Documentation Workflows

The CONNECT Edition provides a common environment for comprehensive project delivery and connects users, projects, and your enterprise. With the CONNECT Edition, you now have a personal portal to access learning, communities, and project information. You can also share personal files directly from your desktop with other users, or stage them for easy access from a Bentley app, such as Navigator Mobile. With the new project portal, your project teams can review project details and status, and gain visibility into project performance. With the CONNECT Edition, your project team may also wish to take advantage of the new ProjectWise® Connection Services including Project Performance Dashboards and Issues Resolution.

WorkFace Planning Improves Project Management

In ConstructSim Planner, project teams can visualize and interact with a virtual construction model (VCM), visually organizing engineering components into construction work areas (CWAs), construction work packages (CWPs), and installation work packages (IWPs). This allows a more optimal and granular work breakdown structure to drive engineering, procurement, and fabrication based on the sequencing needs of field installation. Visually defining CWAs and CWPs provides an unprecedented level of management control over construction planning. Construction managers can more easily and accurately plan work priorities and installation sequences.

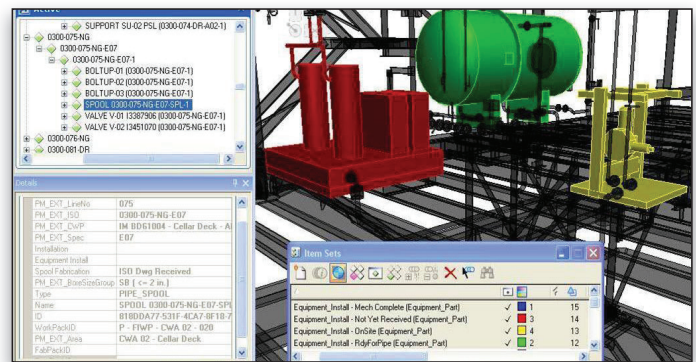### Quantity Tracking and Earned Value Reporting Saves Time

ConstructSim Planner represents the future of model-based quantity tracking and earned value reporting. Templates can be used to assign milestones with labor estimates onto construction quantities and then generate a database of Level 5 work steps for planning and measuring progress. Publishing of progress scorecards, material lists, reports, and other documentation into IWPs for the crews can be automated.

Visualize Component States with Construction Status Tracking

Users can mark and track individual model component or groups to see a color-coded 3D image representing construction status. This allows progress to be tracked in near real-time, providing a clear overview of complex projects.

Construction Schedule Animation Improves Safety and Timing

Automatic linking of components and user-defined groups with the schedule provides flexible 4D schedule visualization. With a clear understanding of the construction path, supervisors can maximize safety while meeting schedule requirements. Users

Software offers workflow support for all disciplines.

can also report estimated and earned hours and quantities for measuring progress of the Level 3 schedule via a model-based 5D cost analysis. Data can be uploaded from subcontractors to monitor and coordinate interdependent activities, moving to an X-D construction simulation environment.

Materials Management Improves Procurement

Improved scheduling is based upon materials currently on-site and estimated arrival dates received from procurement in the materials system. Users prioritize material feasibility analysis from the detailed sequence of IWPs and eliminate cumbersome data entry through automated material reservation requests. Integration with RFID and bar coding systems adds to the ability to optimize on-site material management.

Look-ahead Planning for Proactive Management

ConstructSim Planner improves the acquisition of information from the field before finalizing plans. It provides a visual representation of available work and materials, then manages the resource constraints against each work package. The ability to track, update, and edit work packages based on constraints helps ensure packages are released to the field only when management knows the IWPs can be completed, reducing rework and minimizing out-of-sequence work.

Virtual Model Enhances Systems Completions

The VCM allows users to walk-down turnover systems in the virtual model prior to installation and interactively define test packages. Users can monitor installation progress to expedite incomplete work based on system turnover priorities.

Holistic Project Dashboard and Reporting

ConstructSim Work Package Server, included with ConstructSim Planner, offers a Web-based interface to manage work packages and report on the most up to date workflow details and material status. Key performance indicators are highlighted in a dashboard to keep project stakeholders informed.

ConstructSim Planner At-A-Glance

Expanded Support for Additional Disciplines

- Workflow support for all construction disciplines including civil engineering, electrical and instrumentation, piping structural, and equipment
- Standard data transfer interfaces for input of engineering lists such as mechanical equipment list, instrument index, electrical cable schedule, raceways, HVAC, and more
- Non-graphical work package functionality to track detailed quantities where components are not modeled in 3D CAD
- Work packages development on early engineering models prior to release of construction documents

Systems Turnover Enhancements

- Visually develop turnover systems and test packages in a virtual model
- Represent engineering components simultaneously by installation area, work package, test package, and system extent
- Prioritize and expedite incomplete installation work based on turnover schedule needs
- Provides "out-of-the-box" system completion reports and expediting reports

MicroStation® Visualization Engine

- Provides powerful graphics visualization for smooth navigation of complex CAD data from global megaprojects
- Leverages the drawing production, publishing, documentation, model, and output capability of MicroStation
- Incorporate visualizations of cranes, scaffolding, and other construction site content
- Provides support for loading CAD data from third-party engineering software vendors

Dynamic Review Publishing Service

- Publish i-models (containers for open information exchange) suitable for large-scale dynamic review with Bentley Navigator
- Create interactive 3D PDFs to provide models for review to a wide audience
- Enhance collaboration between engineering and construction
- Review construction status and priorities in engineering
- Leverage shared mark-ups, notes, and annotations in the 3D model

Comprehensive Worksharing Environment

- Comprehensive worksharing environment for simultaneous use by construction management firms, direct-hire contractors and owner-operators
- Easy-to-use game-like environment for field users
- Templated, open interfaces to all popular 3D modeling packages and materials management systems including SmartPlant Materials
- Robust data processing environment for the data administration using a federated information workflow architecture
- Use cases relevant to early construction planning, field execution, handover, commissioning, and shutdown-turnarounds
- Used by: WorkFace Planner, Field Engineer, Foreman / Supervisor, Construction Manager, Project Manager, Turnover Coordinator, Material Coordinator, Project Controls, QA / QC Personnel
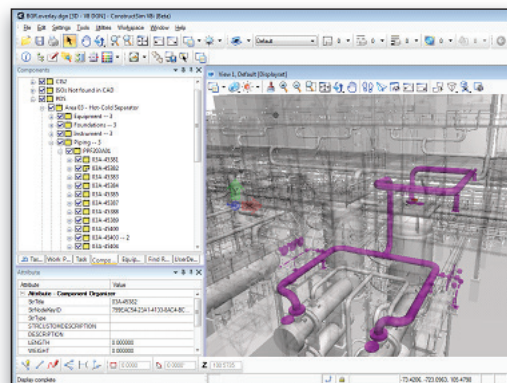
Work Package Bookmarks

- Generate work package bookmarks automatically
- Access bookmarks to generate markups
- Support for labeling inside of bookmarks

Steel Hanglists

- Create list of steel members
- Order and animate lists
- Publish lists in reverse order to aid truck loading
- Create erection sequences based on published lists

Support

- Addresses fundamental needs of change management
- Incorporates key concepts and work process methodologies for agile construction, WorkFace Planning and related construction industry best practices
- Includes support by a team of senior industry consultants with decades of field experience
- Includes well developed, standardized project templates to simplify deployment, and jump-start a company towards realizing the targeted benefits of virtual construction simulation
- Supports ROI and quality initiatives with owner and constructor partners

ConstructSim Planner provides extended i-model support for CAD conversion.

Users can enhance reporting capabilities leveraging the SQL Server Reporting Service.