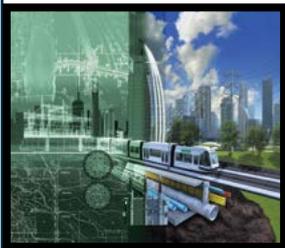




MicroStation and PowerDraft

Unrivaled Information Modeling and Documentation for Infrastructure Projects

"Bentley MicroStation and its discipline-specific applications have enabled our design team to achieve an unparalleled level of accuracy when compared to any other 3D design software."
—ARUP



"MicroStation is the key platform for integration of the most complex projects. It provides the means to connect different applications and produce documentation in a unified format."
—envi.con Plant Engineering

MicroStation

MicroStation is an unrivaled information modeling environment explicitly for the architecture, engineering, construction, and operation of all infrastructure types including utility systems, roads and rail, bridges, buildings, communications networks, water and wastewater networks, process plants, mining, and more.

MicroStation turns ideas into reality. It provides immersive interaction with 3D models and 2D designs to confidently produce trusted deliverables such as precise drawings, information-rich 3D PDFs and 3D plots. Its robust data and analysis capabilities enable performance simulation of designs, including lifelike rendering and compelling animations. Moreover, its ability to integrate a comprehensive breadth and depth of engineering geometry and data of any scale from an unmatched range of CAD software, engineering formats, and point-cloud data accelerates the design process and ensures users can work seamlessly with the entire project team.

PowerDraft

PowerDraft is the premier application for the production of all types of project documentation for engineers, architects, geospatial professionals, constructors, and owners who need to document, detail, and map infrastructure projects.

As a companion product to information modeling products from Bentley and other vendors, PowerDraft empowers users to easily and reliably incorporate existing data and to document projects of any scale to produce precise physical and digital deliverables. Its unmatched fidelity working with DWG and DGN data and extensive interoperability support for other data types like point clouds, geospatially referenced data, and raster imagery ensures that users can work seamlessly with an entire project team incorporating any information into their final hardcopy and digital deliverables.

PowerDraft is a cost-effective and extremely robust tool that meets the documentation needs of infrastructure teams across every discipline.

Information Modeling

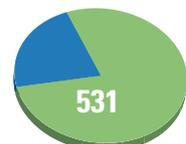
Bentley's applications usage among top design firms

*Combined 2012 ENR Top 500 Design Firms and ENR Top 150 Global Design Firms with duplicates removed

ENR Top 25 Design Firms



Combining ENR's Top 626 Design Firms*





“MicroStation allows our entire planning team to efficiently collaborate on large models thanks to its flexible referencing capabilities and its intuitive and customizable user interface. In addition, its 3D modeling capabilities help us to present our architectural ideas quickly and professionally.”

—Störmer Murphy and Partners

	MicroStation	PowerDraft	AutoCAD	AutoCAD LT
Interoperability and Extensibility				
Format Interoperability				
Use and produce trusted DWGs with Autodesk® RealDWG™	●	●	●	●
Access geometry requiring object enablers	●	●	●	●
Precisely aggregate and assemble data of multiple types and formats:				
Reference multi-page PDFs	●	●	●	●
View and manipulate point-cloud data	●	●	●	●
CAD file formats: DGN, DWG, DXF, PDF/U3D, IFC, Rhino 3DM, STL, VRML World, SketchUp SKP	●	●	◐	◐
Mechanical CAD file formats: JT, IGES, Parasolid, ACIS SAT, CGM, STEP AP203/AP214	●	◐	●	○
Visualization file formats: 3DS, OBJ, Collada, FBX	●	◐	◐	○
Geospatial file formats: Google Earth KML, esri SHP Files and geospatial PDF	●	●	○	○
Import, open, and reference IFC files	●	●	○	○
Integrate 50+ image file formats	●	●	○	○
Geocoordination				
Easily integrate hundreds of geospatial coordinate systems	●	●	○	○
Employ geospatial referencing using multiple coordinate systems	●	●	○	○
Perform simple AEC coordinate transformation for buildings	●	●	○	○
Integrate with OGC Web Map Server	●	●	○	○
Reference Geospatial PDFs	●	●	○	○
Integrate Google Earth content	●	●	○	○
Link real-time GPS data to models	●	○	○	○
File Referencing				
Attach PDF files natively as a reference	●	●	●	●
Reference live 2D/3D DGN, DWG, and large image files, refreshable on demand	●	●	◐	◐
Attach versioned files including design history	●	●	○	○
Extensibility and Integration				
Customize user interface	●	●	●	◐
Employ universal database connection	●	●	●	◐
Create user-defined macros	●	●	●	○
Develop applications with Microsoft (VBA) .NET, C++, C#, and application's own development language	●	◐	●	○
Find files faster with Windows Ifilter support	●	●	◐	○
Preview files with Windows preview integration	●	●	○	○



“Bentley’s commitment to the same file format over several versions has been and will continue to be the main benefit over the competitors.”

—GeoSite.dk

	MicroStation	PowerDraft	AutoCAD	AutoCAD LT
Modeling and Productivity				
Breadth of Modeling Capabilities				
Build and edit solid, surface, mesh, and feature models	●	○	●	○
Intuitively push, pull, drag, cut, and extrude 3D geometry	●	○	●	○
Create 3D print ready models	●	○	●	○
Use computational modeling tools to model geometry, capture relationships, and create forms parametrically	●	○	○	○
Integration of 2D/3D Modeling				
Update drawings automatically when 3D models change	●	●	●	●
Slice and filter 3D models to improve interactive visualization	●	●	●	○
Update all annotation dynamically	●	●	●	○
Manage drawing views across an entire project	●	●	●	○
Coordinate 3D models and 2D drawings automatically	●	●	◐	○
Drag and drop plans, elevations, and sections to create documentation	●	●	◐	○
Design Productivity				
Employ a comprehensive set of drafting and detailing tools	●	●	●	●
Speed production with intelligent and interactive snapping	●	●	●	●
Use dynamic input with heads-up display	●	●	◐	◐
Navigate intuitively with element transparency, display priority, and gradient fills	●	●	◐	◐
Group tools and tasks with customizable interface	●	●	◐	○
Create customizable cursor menus	●	●	◐	○
Reduce keystrokes with keyboard position mapping	●	●	○	○
Navigate through file history	●	●	○	○
Batch convert multiple formats	●	●	○	○
Model Simulation and Analysis				
Rendering				
Render in near-real-time with photo-realistic rendering	●	○	○	○
Use point-and-shoot physically correct materials and lighting libraries	●	○	○	○
Leverage multi-core support for 32 processors	●	○	○	○
Access rich online photorealistic content (RPC)	●	○	○	○
Employ distributed/networked rendering	●	○	○	○
Design Simulation				
Perform real-time visual analysis based on object properties (height, slope, aspect angle, etc.)	●	●	○	○
Access and analyze model data via ODBC driver	●	●	○	○
Perform solar exposure/shading analysis	●	○	○	○
Produce realistic animations quickly	●	○	○	○
Use keyframe and time-based animation	●	○	○	○
Preview live on-screen animations	●	○	○	○
Manipulate animations through timeline and velocity graph	●	○	○	○
Simulate traffic with built-in workflows	●	○	○	○

Bentley MicroStation:
<http://www.bentley.com/MicroStation>

Find out about Bentley at:
www.bentley.com

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

Global Office Listings
www.bentley.com/contact

“By choosing MicroStation, we have saved both time and money in our projects.

Can we afford not to use it?”

—Vattenfall

	MicroStation	PowerDraft	AutoCAD	AutoCAD LT
Design Review				
Create rich, multi-discipline models for design review	●	●	○	○
Consume and coordinate electronic design reviews	●	●	○	○
Consume and coordinate paper-based design reviews	●	●	○	○
Review and mark up designs with redline comments	●	●	○	○
Manage markups and review workflows with markup dashboard	●	●	○	○
Detect and resolve clashes *	●	○	○	○
Simulate schedules dynamically with Microsoft Project and Oracle's Primavera **	●	○	○	○
Deliverable Production				
Printing and Plotting				
Create, manage, and navigate plot sets	●	●	●	●
Batch print multiple drawings	●	●	●	○
Control print settings using print styles	●	●	○	○
Publish intelligent 2D/3D PDFs using genuine Adobe PDF tools	●	●	○	○
CAD Standards Management				
Leverage Citrix XenApp certification for standardized product deployment	●	●	●	●
Manage CAD standards with configurable checking tools	●	●	●	●
Easily manage all styles for dimensions, text, lines, detail symbols, and display	●	●	○	○
Drawing composition, content, and workflow	●	●	○	○
Integrate CAD standards using templates	●	●	○	○
Project Coordination				
Easily manage references to Microsoft Office documents	●	●	●	○
Dynamically update all annotation	●	●	○	○
Navigate from content in one file or model to others	●	●	○	○
Publish intelligent PDFs that retain all hyperlink intelligence	●	●	○	○
Change Management				
Record all changes to designs for rich revision control	●	●	○	○
Roll back any design file changes from any work session	●	●	○	○
Compare and plot design file changes	●	●	○	○
Digital Security				
Confirm status & approvals using digital signatures with 2048 bit public/private keys	●	●	○	○
Control digital rights to view, edit, print, and copy file content	●	●	○	○
Establish predefined expiration dates for design files	●	●	○	○

* Requires Bentley Clash Resolution Visa license

** Requires Bentley Schedule Simulation Visa license