

COMPARISON CHART



MicroStation®

CAD for Infrastructure

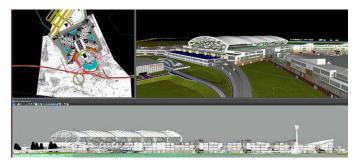
Whether you want to rapidly produce beautiful, precise drawings, create 3D architectural or engineering models, or begin employing information-rich BIM workflows, MicroStation can help you get the job done faster and smarter.

CONNECT ACROSS MULTIDISCIPLINE TEAMS

Many projects involved multidiscipline teams across the asset lifecycle. Establishing a connected environment using MicroStation enables faster decision-making and reduces rework. MicroStation pulls together multidiscipline teams and helps them work as one with a project-centric approach. You can connect to integrated, secure cloud services to share files, monitor project progress, and submit deliverables. You can also leverage flexible referencing, standards management, and checking capabilities, as well as receive personalized in-application recommendations on how to improve your use of MicroStation on any type of work on any project.

CONFIDENTLY INTEGRATE ANY DATA TYPE

Bentley software allows you to open, import, reference, and export the widest available range of data formats and data types. With authentic RealDWG libraries licensed directly from Autodesk, you can reliably work with and produce drawings and models when collaborating with others who use this format. MicroStation can load object enablers, providing extensibility with custom objects in the DWG file format. With the ability to consume and produce multidiscipline design information from 83 raster formats, 37 vector formats, and 17 point cloud formats, as well as common GIS formats like SHP files, you can work with anyone without limitations.



MicroStation allows you to manage any kind of infrastructure project's data aligned with real-world context.

RAPIDLY EXPLORE MORE DESIGN OPTIONS

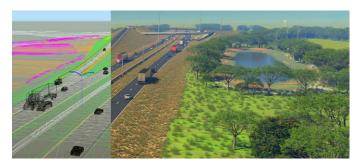
Unlike traditional CAD software, MicroStation is purpose-built to allow you to work in both CAD and BIM workflows. With support for 2D, 3D, and hybrid 2D/3D workflows, plus the ability to populate and manage an unlimited amount of associated information, MicroStation delivers the simplicity and productivity of CAD with the richness and power of BIM. The application includes rich geometric constraints and a comprehensive set of solid, mesh, surface, and feature modeling capabilities.

DESIGN WITHIN REAL-WORLD CONTEXT

Communicating your design intent or evaluating a design with real-world context has never been easier. MicroStation can integrate geospatial information from thousands of supported coordinate systems into your designs. You can access data from Esri ArcGIS™ REST Feature and Map Services as well as OGC Web Map Servers, or use real-time GPS data and Microsoft Bing maps to create and reference geospatial PDFs. The ability to model within the context of precise existing conditions saves time and eliminates error-prone manual work.

IMPROVE PROJECT DELIVERABLES

You can automate the production of high-quality drawings, including multidiscipline documentation sets, that are consistent across an entire project. Powerful documentation automation capabilities, including MicroStation's unique ability to leverage embedded properties and BIM information, are time savers and a bridge to leveraging BIM models for deliverable production. The advantages span from property-driven annotation, display, and reports to sheet layout and indexing.



 ${\it Create lifelike visualizations using the built-in VUE rendering engine.}$

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FEATURE SET	◆ Full feature capability	Aurocalo Por Calo Por			
DESIGN IN CONTEXT					
Geospatial					
Integrated Bing Maps conter	nt	•	•	•	
Reproject live referenced dat	ta using a different coordinate system	•		\$	
Perform simple AC coordinat	te transformation for buildings	•			
Integrate with OGC Web Map	o Server (WMS) and Web Map Tile Server (WMTS)	•			
Integrate with Esri ArcMap™ R	EST Map and Images Services	•			
Reference Geospatial PDFs		•			
Link real-time GPS data to m	odels	•			
Use of 2D and 3D Imagery	у				
Integrate 83 raster image for	rmats	•	~	~	•
Integrate thousands of geos	patial coordinate systems	•	\(\rightarrow\)		
Integrate engineering-ready	phototextured reality meshes created from photos	•	\(\rightarrow		\$
View and manipulate point-	cloud data in 17 popular formats without translation	•	\$	\(\rightarrow	
Incorporate geospatial data and data visualizations	into reality meshes to perform visual queries	•			
Support for point cloud and r	reality mesh streaming services	•			
DESIGN WITH TRUE 3D I	PARAMETRIC MODELING				
Parametric Modeling					
Intuitively push, pull, drag, cut	t, and extrude 3D geometry	•	•	•	•
Create parametric solids, sur	rfaces, meshes, and feature models	•	\$	\$	•
Publish and share organization components using cloud ser	on and project-specific parametric vice	•	\$	•	•
Create and apply persistent of using complex expressions	geometric constraints to 2D and 3D geometry	•	\$\diamondrape{\pi}\$	•	•
Build parametric objects with find and manage componer	n predefined variants to more easily nts	•	\$	\$	•
CREATE PROJECT DELIV	/ERABLES				
Printing and Plotting					
Create, manage, and navigo	ate plot sets	•	•	•	•
Batch print multiple drawings	·	•	•		•
Control print settings using p		•		•	•
	s using genuine Adobe PDF capabilities	•		•	•
_	information to automate creation	•	\$		•
· · · · · · · · · · · · · · · · · · ·	neet properties and build rules-based indexes	•	•		•
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ENFORCE STANDARDS						
Standards Management						
Manage CAD standards with configurable checking capabilities	•	•	•	•		
Easily manage all styles for dimensions, text, lines, detail symbols, and display	•		\$	•		
Automate standards-driven drawing composition	•		•	•		
Integrate CAD standards using templates	•		\$	•		
Automate standards enforcement with cloud-based project standards sharing	•			•		
Change Management						
Confirm status and approvals using digital signatures	•	•	•			
Record all design changes for rich revision control	•					
Roll back any design file changes from any work session	•					
Compare and plot design file changes	•		\$			
Control digital rights to view, edit, print, and copy file content	•					
Establish predefined expiration dates for design files						
LAY OUT AND ANNOTATE DRAWINGS						
Drawing Production						
Update all annotation dynamically	•	•	•	•		
Manage drawing views across an entire project	•	•	•	•		
Drag and drop plans, elevations, and sections to create documentation	•	~	•	•		
Slice and filter 3D models to improve interactive visualization	•	\$	•	•		
Update drawings automatically when 3D models change	•		\$			
Coordinate 3D models and 2D drawings automatically	•		\(\rightarrow			
Production Drafting						
Employ a comprehensive set of drafting and detailing capabilities	•	•	•	•		
Speed production with intelligent and interactive snapping	•	•	•	•		
Use dynamic input with heads-up display	•	•	•	•		
Navigate intuitively with element transparency, display priority, and gradient fills	•					
PRODUCE ANIMATIONS AND RENDERINGS						
Integrated Visualization Capabilities						
Render in near real time with photorealistic rendering	•	\$	•	\$		
Use point-and-shoot to physically correct materials and lighting libraries	•					
Access rich online photorealistic content (RPC)	•					
Employ distributed/networked rendering	•		\$			

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Produce realistic animations quickly	•		•		
Use keyframe and time-based animation	•		\(\rightarrow\)		
Preview live on-screen animations	•		•		
Manipulate animations through timeline and velocity graphs	•		•		
Simulate traffic with built-in workflows	•				
Direct integration with real-time visualization and a rich, delivered library of environmental content	•				
Stereoscoping virtual reality rendering	•		~		
VISUALIZE AND ANALYZE DESIGNS					
Perform real-time visual analysis based on object properties (height, slope, aspect angle)	•		\$		
Access and analyze model data via ODBC driver	•				
Perform solar exposure/shading analysis	•		\(\rightarrow\)		
WORK COLLABORATIVELY ON DESIGNS					
Design Review					
Create rich, multidiscipline models for design review	•	\$	\$	•	
Consume and coordinate electronic design reviews	•	\(\rightarrow\)		•	
Review and mark up designs with redline comments using cloud services	•		~	•	
Manage markups and review workflows with a cloud-based markup dashboard	•			•	
Resolve issues across the entire project team with cloud-based issue resolution services	•		\$	•	
File Referencing					
Attach PDF files natively as a reference	•	•	•	•	
Reference live 2D/3D DGN, DWG, and large image files, refreshable on demand	•	\$	\$	\(\rightarrow\)	
Attach versioned files including design history	•				
Navigate through file history	•				
Format Interoperability					
Use and produce trusted DWGs with Autodesk® RealDWG™	•	•	•	•	
Access geometry requiring object enablers	•	•	•	•	
Integrate data in many formats: DGN, DWG, DXF, PDF/U3D, IFC, Rhino 3DM, STL, VRML World, SketchUp SKP	•	\$	\$	~	
Import mechanical CAD formats including JT, IGES, Parasolid, ACIS SAT, CGM, STEP AP203/AP214	•	•	•	\(\rightarrow\)	
Import, open, and reference IFC files	•	•			
Access visualization file formats like 3DS, OBJ, and FBX	•	\$	\$		
Incorporate geospatial file formats like Google Earth KML, Esri SHP files, and geospatial PDF	•		\$		
Import Revit RFA content	•				
Batch convert multiple formats	•		\(\rightarrow	~	

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Project Collaboration						
Integrated cloud file sharing service	•	•	•	•		
Manage and distribute deliverables packages via cloud-based service	•	~	•	•		
Build cloud-based project dashboards for tracking projectwide progress	•	\$	\$	•		
Integration with collaboration service for global worksharing and streamlining the design process	•	\$	•	•		
Cloud-based project standards sharing	•		•	•		
WORK IN A PERSONALIZED ENVIRONMENT						
Group capabilities and tasks to customize interface	•	\(\rightarrow	•	•		
Employ universal database connection	•	•	\$			
Create user-defined macros	•	•	•	•		
Develop applications with Microsoft (VBA) .NET, C++, C#, and the application's own development language	•	•	•	•		
Create customizable cursor menus	•	~	•	•		
Personalized in-application learning and feature recommendations	•		\$			
ECONOMICS						
Licensing and Pricing						
Perpetual licenses	•		•	•		
Annual subscription licensing	•	•	•	•		
Quarterly subscription licensing billed in arrears based on actual usage	•					
Monthly subscription licensing		•				
Network licensing included	•		•	•		
New file formats roughly every three versions		•	÷	•		
Option to exchange perpetual licenses for entirely different products of equal value each year	•					
Online, live chat, and phone support 24 hours a day, 365 days a year directly from vendor and authorized partners	•	\$	\$	•		
In-application access to hundreds of hours of continually updated learning	•					

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