



## BENTLEY® DESCARTES

COMPREHENSIVE IMAGING SOLUTION FOR VISUALIZATION, MAPPING, AND RASTER-TO-VECTOR CONVERSION

Bentley Descartes is the only imaging solution that is truly integrated with MicroStation® for high productivity visualization, mapping, and raster-to-vector conversion in a single product. Bentley Descartes has tools to warp, reproject, resample, edit, and mosaic aerial photos and satellite images, and optical character recognition (OCR) capabilities allow you to convert maps or scanned documents.

### High-fidelity Imaging to Support Precision Mapping and Engineering

Combine imagery in virtually any format and projection with the precision mapping capabilities of MicroStation and Bentley's geospatial applications for map production and digital map creation to support your business or government's requirements. The seamless integration of Bentley Descartes with MicroStation avoids dual working environments for raster and vector information.

### Create Image Mosaics

Capitalize on the high performance display engine and the capabilities of Bentley Descartes to create seamless mosaics of multiple images, scanned aerial photos, or adjacent raster scanned images to see the complete picture. Choose to leave the source images in their original form to produce a mosaic or create an easily transportable mosaic all in one file.

### Rapid Interpretation and Conversion

Bentley Descartes is designed to provide fingertip control over all the editing functions necessary for image interpretation and raster-to-vector conversion. It expedites work, saving time and money with a robust set of tools including cleanup, vectorization, and Optical Character Recognition.

### On-the-Fly Projection

When used with Bentley Map™, any georeferenced image can be transformed on-the-fly to another coordinate system and projection. Dynamic resampling provides instantaneous raster transformation and Job Manager allows users to process resampling jobs in batch.

### Precision Registration

Our unique WYSIWYG image registration is much more intuitive than other approaches that require distinct

windows for vector and image data and that rely heavily upon transformational statistics. Register provides for dynamic warping that overlays vector data over the uncorrected image so you can verify the transformation model before resampling the image, and for transformation of vector data through the same model and batch resampling of images.

### A Wide Variety of Industry Formats

Bentley Descartes provides support for a wide variety of industry-standard image formats. Native binary, grayscale, and color image formats (1, 4, 8, 11 and 24, 48, and 64-bits). All formats are implemented natively for optimal performance. Fast open and save operations without conversion are supported and files can easily be converted to any supported format.

### Flexible Image Manipulation

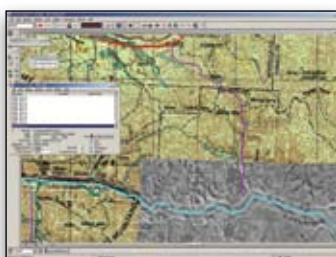
Bentley Descartes includes tools to crop, copy, move, merge, scale, mirror, square, and rotate images or objects within images, as well as tools to make regions of images translucent or transparent. Use these capabilities to automate production of montages, corridor and plan sheet alignments, or to lay out plots or documents.

### Document Cleanup, Editing, and Enhancement

Clean up drawings by filling holes, using erasers, despeckling, and a variety of other methods. Bentley Descartes also provides a rich set of tools to edit images. Rapidly improve the quality of poor source drawings in order to take advantage of automated conversion tools or quickly restore and enhance legacy drawings to prolong their life.



Work with multiple images as if they are a single image.



Format flexibility allows you to combine various formats in a single scene.

## SYSTEM REQUIREMENTS

### Processor

Intel Pentium or AMD AthlonT.

### Operating System

Windows Vista, Windows XP and Windows 2000

### RAM

256MB minimum, 512MB recommended.

### Hard Disk

900MB free disk space (which includes the 400MB install footprint for a complete installation).

### Display

Graphics Card supported by DirectX 9.0

## ABOUT BENTLEY

Bentley Systems, Incorporated is the global leader dedicated to providing comprehensive software solutions for sustaining infrastructure. Architects, engineers, constructors, and owner-operators are indispensable in improving our world and our quality of life; the company's mission is to improve the performance of their projects and of the assets they design, build, and operate. Bentley sustains the infrastructure professions by helping to leverage information technology, learning, best practices, and global collaboration – and by promoting careers devoted to this crucial work.

For more information, visit [www.bentley.com](http://www.bentley.com)

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## BENTLEY DESCARTES AT-A-GLANCE

### Visualization

- Image draping on DTM or 3D objects
- Based on MicroStation rendering
- Real-life textures
- Lighting effects
- Elevation
- Perspective
- Create fly-throughs and animations
- Create 3D PDFs

### Interpretation and Conversion

- Semi-automatic and interactive modes
- Intelligent conversion
- Topologically-ready linework
- Point, stream, and arc modes
- Gap jumping
- Generalization
- RasterSnap
- Convert contours
- Erase raster while vectorizing
- Optical Character Recognition

### High Fidelity Imaging

- AccuSnap®-enabled image borders
- Manipulate as standard MicroStation selection sets
- Move, scale, rotate using standard MicroStation tools
- Dynamic transparency
- Set display priority
- New line conversion engine
- New generalization algorithms

### On-the-Fly Projection of Georeferenced Images

- Coordinate system and projection system control
- Transform vector and raster data

- Georeferenced file format support
- Georeferenced "sister files"
- User-defined projections

### Rapid Document Cleanup, Editing, and Enhancement and Flexible Image Manipulation

- Clean-up tools
- Cleanup mask
- Pixel-Grid at high-zoom levels
- Vector stamping
- Drafting
- Rubber sheeting

### Image Enhancement

- Translate, scale, rotate
- Translucency/transparency
- WYSIWYG enhancement tools
- Crop using non-rectangular shapes
- Selection set operations
- Contrast stretch

### Registration

- Precision warping with register
- WYSIWYG display of vectors and control points over raster
- Batch resampling
- Multiple warping methods
- Align
- Batch processing

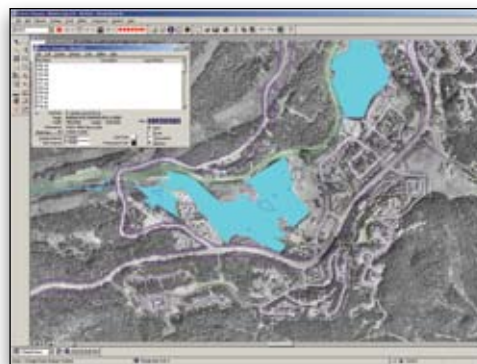
### Dynamic Tools to Rapidly Create Image Mosaics

- Automatic seaming and feathering
- Unlimited number of images
- Automatic color balancing
- Corridor cropping to DGN elements
- Process mosaics as a single image
- High-performance image display

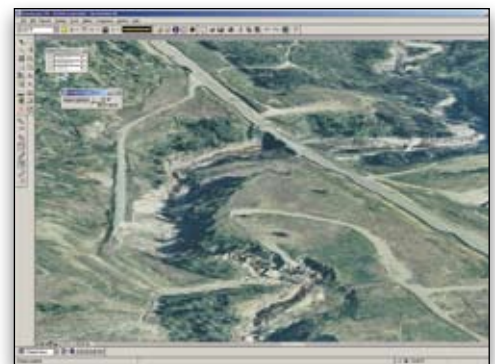
- 1-bit to 24-bit color support
- 16-bit/channel support (64-bits)
- Look-Up-Table (LUT) support
- Fast open and save operations
- No conversion needed

### Standard File Formats

- New! ECW (unlimited), PDF, IMG, JPEG 2000, BIL, DOQ, FLI, SPOT CAP and Digital Image Map
- TIFF (1 to 32-bit), GEOTIFF, iTIFF, COT, CIT, RLE, CALS, PCX, IMG, BUM, TG4, INT, RGB, TGA, JPEG, RLC, RS, HMR, BMP, and IKONOS 3 (Red), and 4 (NIR) bands from GeoEye
- Compression schemes: Deflate, PackBits, CCITT3, CCITT4, and JPEG 2000
- Wavelet compression schemes: ECW and MrSID



*Easily integrate raster and vector data.*



*Create presentation-quality visualizations.*