



Product News Alert

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Brand: Descartes

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Product: Bentley Descartes

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Bentley Descartes Accelerates the Use of Reality Modeling in Engineering Workflows

Bentley Systems announces the availability of Bentley Descartes CONNECT Edition, an application that enables production of a wide range of design deliverables through the integration of 2D and 3D imagery with data from popular BIM, geospatial, and CAD formats. Bentley Descartes CONNECT Edition delivers groundbreaking new capabilities and substantially improved performance, enabling reality meshes to be truly accessible to all stakeholders throughout the infrastructure lifecycle.

Key new capabilities include:

- Integration of large reality meshes created with ContextCapture for:
 - Easy generation and manipulation of cross sections
 - Production of orthophotos on any axis
 - Production of 3D PDFs and i-models from any combination of vector geometry and imagery
 - Thematic visualizations and solar studies
 - Production of visualization-ready models for use in Bentley LumenRT
- Integration of popular BIM, geospatial, and CAD formats such as DGN DXF, DWG, Rhino, SKP, SHP and more
- Feature extraction from reality meshes or point clouds

- The ability to visualize and visually navigate geospatial information within the context of a 3D reality mesh through the new reality mesh classifier
- Personalized environment and streamlined user experience
- Use of orthographic images to colorize point clouds without color information to produce more photorealistic point-cloud data

Native support for reality meshes allows Bentley Descartes users to directly integrate models produced with ContextCapture into engineering workflows. Descartes users then have the ability to combine reality meshes with other data types including point clouds, raster, and models. Users can then use all of this data in combination with BIM, geospatial, and CAD data in many popular formats to produce a wide range of design deliverables.

With new feature extraction capabilities, users can now extract breaklines and produce digital terrain models from reality meshes or point clouds, dramatically speeding these tasks.

Bentley Descartes CONNECT Edition adds the ability to perform thematic visualizations, changing the display of models based on their inherent properties like slope, elevation, and aspect angle. Users can also conduct solar studies and shading analyses as well as publish models so that they can be visualized in the real-time rendering environment of Bentley LumenRT.

A new innovation, the reality mesh classifier, enables users to enrich reality meshes with attribute information from spatially enabled databases, attaching it to specific parts of the mesh. Users then can search and query the mesh based on the associated data, enabling a unique and powerful 3D visualization of geospatial information.

Leveraging Bentley's comprehensive modeling environment, Bentley Descartes CONNECT Edition introduces a new streamlined user interface that speeds the access to project-specific files, standards, help, tools, and the support required to get work done faster.

Users can also now work with much larger models without sacrificing performance, using Bentley Descartes CONNECT Edition's high-performance 64-bit architecture. This performance supports even the most demanding use cases, making it ideal for working with city-scale reality meshes and very large point clouds. Descartes users will also be able to access CONNECT services such as point-cloud streaming to speed the sharing of very large point-cloud data sets.

Users who have point-cloud data without color information can enrich their point clouds to be much more visually rich and understandable by using orthophotos to colorize them, enhancing the long-term value of both the orthophotos and point clouds to enable better decision making.

David Byrne of AEROMETREX, said, "The new mesh classifier and terrain extraction tools in Bentley Descartes CONNECT Edition will enable us to provide even richer deliverables to our clients. We see that Bentley Descartes will be an invaluable part of our ContextCapture workflows thanks to its newly added support for reality meshes."

Dustin Parkman, VP, civil and reality modeling with Bentley Systems, said, “Bentley Descartes CONNECT Edition is the key to effectively realizing the full potential of reality meshes within engineering workflows. Bentley Descartes is critical for engineers, architects, and infrastructure owners in that it makes reality data seamlessly accessible for use throughout the infrastructure lifecycle.”

About Bentley Descartes

Bentley Descartes provides users with advanced processing for 3D imagery, enabling the integration, visualization, clean-up, and flexible display of their reality modeling data for use within design, construction, and operations workflows. Bentley Descartes offers unmatched capabilities for working with and producing deliverables from point clouds, reality meshes, scalable digital terrain models and raster imagery of any scale for use in engineering and geospatial applications from Bentley and others.

About CONNECT Edition

Introduced in 2015, and with general access to Bentley’s full portfolio of applications becoming available in 2016 and 2017, the CONNECT Edition represents Bentley’s next generation of infrastructure engineering software. CONNECT Edition provides a comprehensive modeling environment, a connected data environment, and a connected performance environment, leveraging the accessibility and computing power of the Microsoft Azure cloud, and supporting a hybrid environment that includes on-premise servers, desktop applications, and mobile apps. The CONNECT Edition extends the reach of information mobility for advancing the design, construction, and operations of infrastructure. Learn more at: [CONNECT Edition](#).

View and Download Related Images:

- [Image 1](#)
Image 1 Caption: Bentley Descartes’ feature extraction capabilities allow users to perform tasks like breakline and ground extraction directly from reality meshes or point clouds.
- [Image 2](#)
Image 2 Caption: Bentley Descartes can be used to publish reality meshes created with ContextCapture for use within Bentley LumenRT to create stunning real-time visualizations.