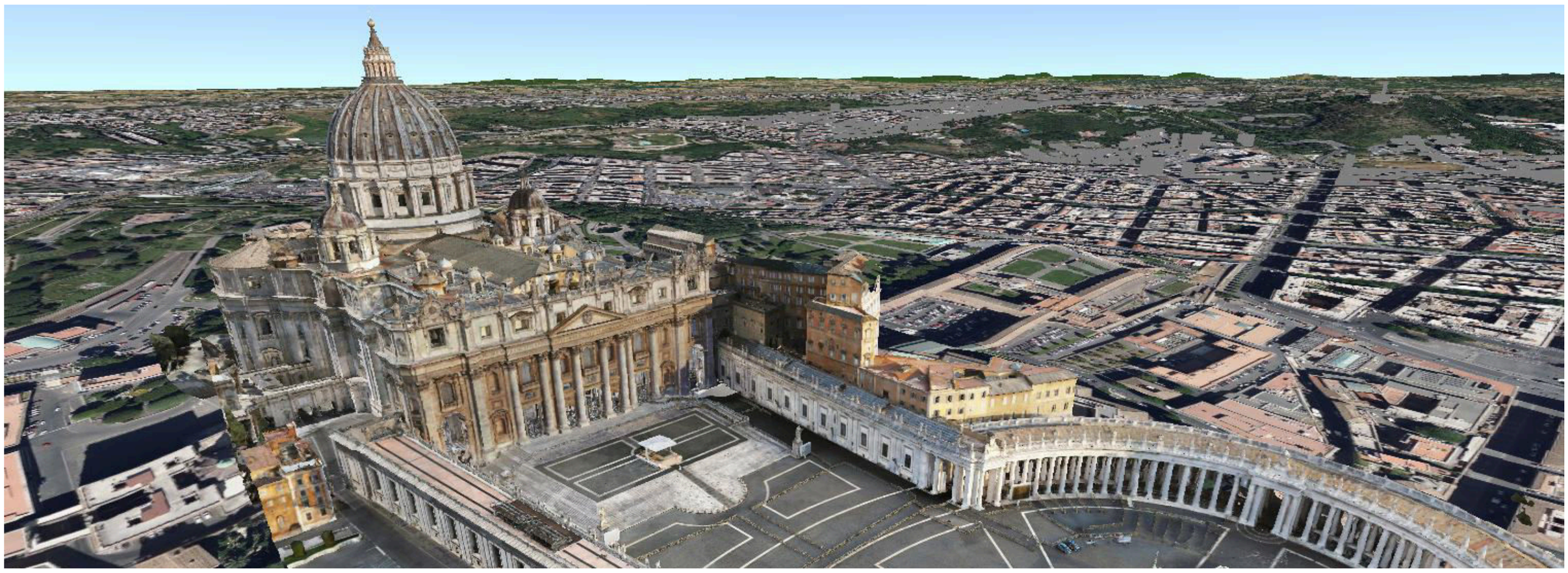

iTwin® Capture Modeler Flex

Add real-world insights to your digital twins with reality modeling

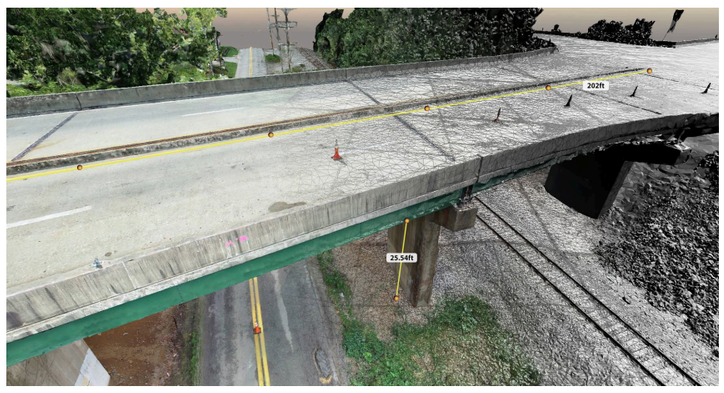

Image courtesy of Virginia Department of Transportation

Image courtesy of Stantec

Create the foundational layer of your digital twin with a flexible, powerful workflow. Start with iTwin Capture Modeler Flex, a free application designed to let you import, organize, and prepare your reality data. Once your project is configured, choose your processing path: leverage the powerful parallel computing of iTwin Capture Engine for local processing, or scale limitlessly in the cloud with iTwin Capture Cloud Services. Either way, you can automatically convert raw reality data into actionable reality meshes and other engineering-ready outputs that serve as a single source of truth to accelerate infrastructure workflows.

Reality data creation and enhancement

iTwin Capture Modeler Flex supports the import of any reality data, enabling diverse ingestion workflows. It prepares projects for processing and allows you to configure aerotriangulation, camera calibration, and metadata management. Once prepared, your data is transformed into engineering-ready outputs such as reality meshes, gaussian splats, point clouds, and orthophotos using any digital camera, scanner, or mobile mapping device.

To enhance the quality of reality data, the workflow includes advanced features including masks, water constraints, and retouching tools. Precision is further improved through the use of ground control points, flight metadata, and camera calibration management, all assessed during the processing stage. The resulting reality mesh quality is among the best available, limited only by the quality of the input images or point clouds.

Scalability and parallel computing

The processing options available after preparing your project are designed to scale effortlessly, whether you're working with objects just a few centimeters in size or replicating entire cities.

Local processing with iTwin Capture Engine leverages powerful graphical processing units and parallel computing capabilities to dramatically accelerate the processing of large scenes. When additional scalability is required, iTwin Capture Cloud Services provide on-demand cloud computing to process massive datasets without hardware limitations.

This performance ensures that large and complex projects can be completed efficiently and in a timely manner, supporting rapid progress on even the most ambitious initiatives.

Seamless ecosystem integration

Reality meshes, point clouds, gaussian splats, and orthomosaics created through the iTwin Capture workflow integrate smoothly into desktop and web applications, including the iTwin platform and Cesium®.

The software supports key industry-standard export formats, ensuring greater compatibility and streamlined workflows. Its unique level-of-detail technology ensures smooth navigation of reality meshes of any size, whether viewed in desktop environments or on the web.

Automation and customization

Maximize your efficiency with our powerful development tools, available at no additional cost. You can write custom scripts to automate local processing with the iTwin Capture SDK, or use our APIs to programmatically manage large-scale jobs in iTwin Capture Cloud Services. These tools are designed to accelerate your workflows, ensure consistency, and integrate our reality modeling capabilities directly into your unique environment.

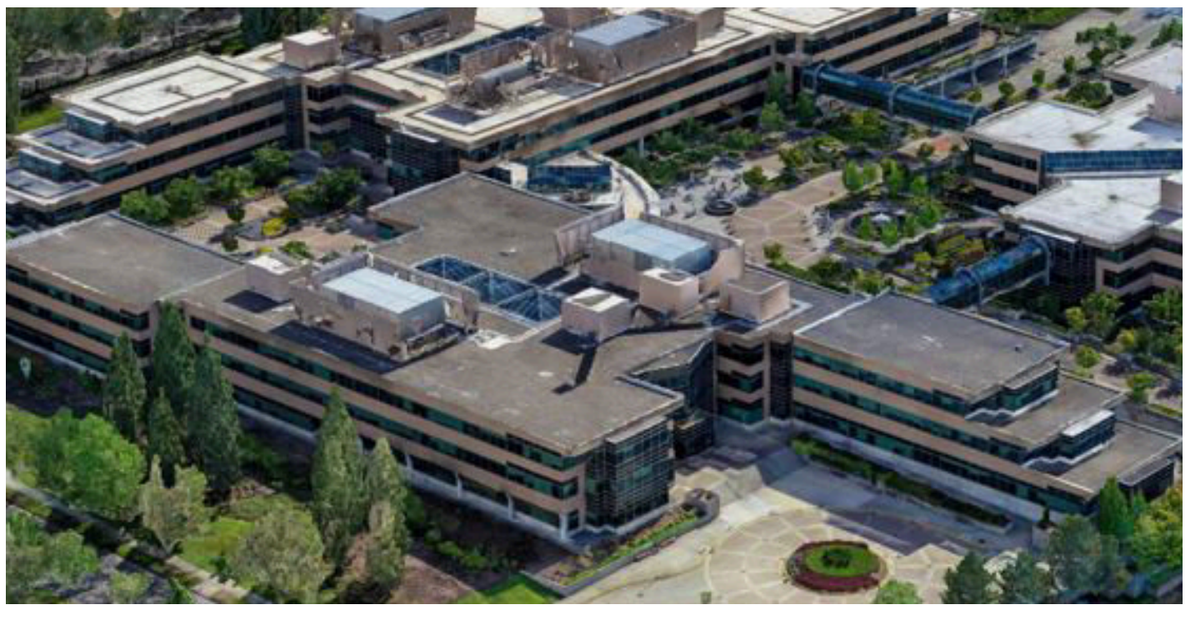

Image courtesy of Microsoft

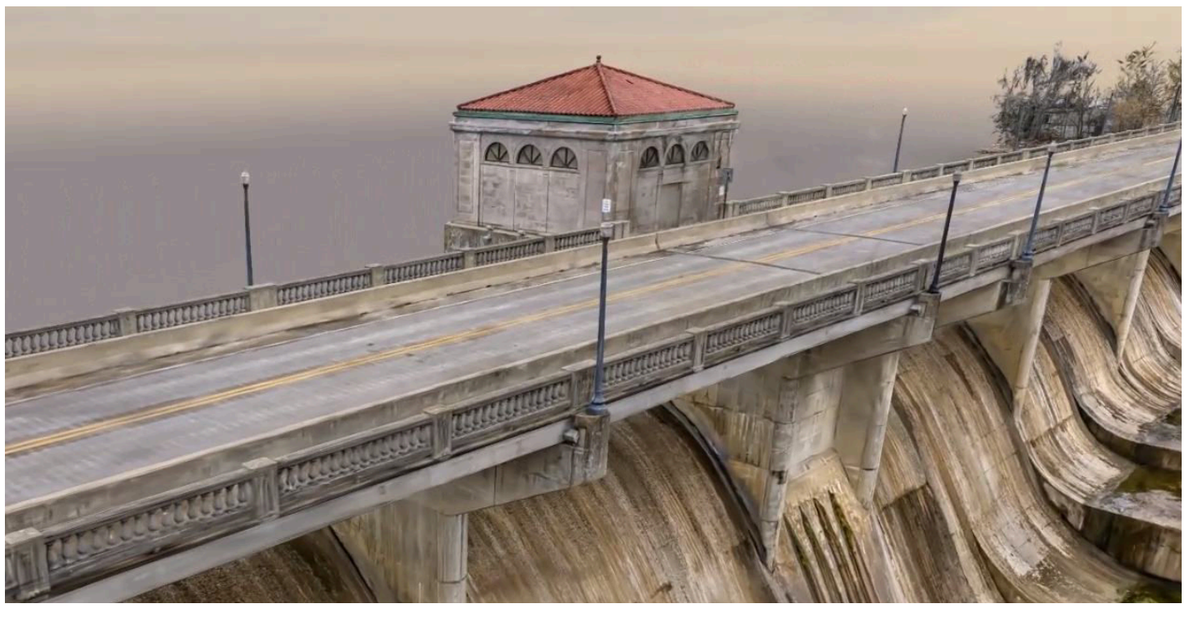

Image courtesy of GeoSpatial Integrations LLC (GSI)

System requirements

Minimum: Intel Core i7 (8 cores) or equivalent CPU, NVIDIA or Intel GPU, 16 GB RAM, Microsoft Windows 11 (64-bit) or Microsoft Windows Server 2022 (64-bit)
Recommended: 32 GB RAM (64 GB RAM for iTwin Capture Engine)

iTwin Capture Modeler Flex At-a-glance

Preparation (with iTwin Capture Modeler Flex)

Georegistration, quality, and measurements

- Leverage ground control point import, recording, and automatic detection
- Handle any flight metadata from EXIF tags to external columned files
- Generate quality reports and review quality metrics in 3D
- Import camera calibration reports to enable more accurate processing

Data import and retouching

- Import reality data of any type (image, point cloud, video) or size
- Retouch data by removing floating artifacts, filling holes, or flattening areas

Processing and sharing (with iTwin Capture Engine or iTwin Capture Cloud Services)

Engineering-ready outputs

- Create reality meshes, gaussian splats, orthophotos, and point clouds

High-performance processing

- Leverage powerful parallel computing for high processing speeds
- Employ advanced level-of-detail technology for smooth navigation of city-scale scenes
- Process locally with iTwin Capture Engine or in the cloud with iTwin Capture Cloud Services

Sharing to connected environments

- Directly share images, point clouds, gaussian splats, and meshes
- Share image collections as mapping runs for web-based photo navigation
- Import data from the Reality Management Service directly into your project

Find out more at Bentley.com
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Outside the U.S.: +1.610.458.5000
Global office listings: bentley.com/contact