



ArcGIS® Reality for ArcGIS Pro

Large-Area Reality Mapping in ArcGIS

What Is ArcGIS Reality for ArcGIS Pro?

ArcGIS® Reality for ArcGIS Pro is an extension that seamlessly integrates reality mapping capabilities into geographic information system (GIS) workflows. It enables ArcGIS users to process drone, aerial, and satellite imagery to create photo-realistic 3D digital representations of sites, cities, and even entire countries. This technology leverages the power of imagery and GIS to enable data-driven decisions, gain a comprehensive understanding of the user's surroundings, and unlock new possibilities for analysis and communication across industries and applications.

Reality Mapping Powered by ArcGIS

Reality mapping goes beyond traditional image visualization, providing a highly realistic, immersive, and interactive virtual environment. Digital representations provide important context about spatial relationships, so you can explore an area and understand how it relates to what's around it. Now, you can zoom in, pan around, measure distances, and perform various analytical tasks on digital representations—all within one comprehensive system and all within the context of a map.

Top banner 3D mesh was processed with ArcGIS Reality for ArcGIS Pro, using satellite imagery at 30 cm resolution of the city of Barcelona, captured by Pléiades Neo satellites.

How It Works

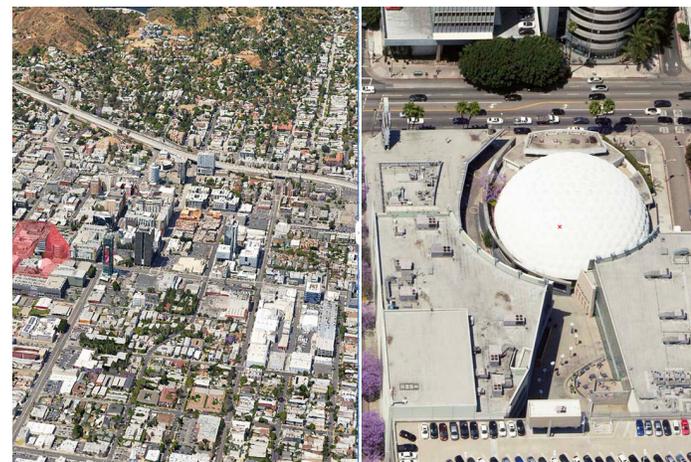
Import: Load and manage data from multiple flights and multicamera systems.

Align: Optimize the orientation of imagery from multiple flights and sensors. Measure control points to correctly georeference your results.

Process: Turn large collections of aligned images into high-quality 3D meshes, point clouds, digital surface models, and True Orthos.

Refine: Iterate the alignment and reconstruction to deal with challenging datasets.

Share: Seamlessly share your outputs with your ArcGIS Enterprise organization.



What Can You Do with ArcGIS Reality for ArcGIS Pro?

With ArcGIS Reality for ArcGIS Pro, you can gain a comprehensive understanding of spatial relationships by visualizing places—from small sites to very large areas of interest—in the context of a map.

Generate reality mapping products in-house.

Work directly within the familiar ArcGIS Pro environment to create high-quality, accurate geospatial products such as True Orthos, digital surface models, point clouds, and high-quality textured 3D meshes so that users can effectively leverage the comprehensive capabilities of ArcGIS.

Process imagery from multiple platforms.

This flexible, camera-agnostic solution enables you to process drone, aerial, and satellite imagery to generate high-fidelity and up-to-date representations of the real world with the maximum information available, ensuring comprehensive information for your organization's GIS workflows.

Use a single system to create, visualize, and analyze geospatial products.

Easily integrate reality mapping into GIS workflows by processing imagery within ArcGIS Pro; publishing the resultant content directly to ArcGIS Online or ArcGIS Enterprise; and using the content for additional ArcGIS workflows, such as overlaying reality mapping

Use Cases for Reality Mapping with ArcGIS

Virtual Experience: Immersive and shared virtual experiences that help you, collaborators, and clients in remote exploration for a variety of applications across industries

Data Visualization: Visualizing complex datasets in a spatial context, useful in data analysis, market research, and urban planning

Asset Management: Efficiently managing and maintaining physical assets through accurate digital representations, benefiting organizations in various sectors—architecture, engineering, construction, urban planning, and more

Risk Assessment: Assessing and mitigating risks in disaster management and security planning scenarios

Environmental Monitoring: Monitoring and analyzing environmental changes for conservation efforts, resource management, and environmental impact assessments

data with supplementary information, conducting advanced analyses, and utilizing geospatial artificial intelligence (GeoAI) capabilities. This single solution eliminates the need for multiple third-party applications to satisfy your photogrammetric and reality mapping needs.

User ArcGIS Reality for digital twins.

With ArcGIS Reality, users create highly accurate 3D meshes, True Orthos, and point clouds to use as an important piece when developing 3D digital twins of social, natural, and built environments.

MORE INFORMATION

Go to go.esri.com/RealityProExtension to find resources or connect with the reality mapping sales team.

