

ImageStation® DTM for GeoMedia®

Hexagon Geospatial division's ImageStation DTM for GeoMedia (ISDG) is a set of tools that work with GeoMedia and ImageStation Stereo for GeoMedia (ISSG) to collect and edit terrain data to generate surface files for photogrammetric, mapping, and engineering workflows. Having an accurate and up-to-date elevation data layer is critical for many applications, including orthophoto creation, topographic mapping, engineering design and analysis, transportation planning, flood hazard mapping, terrain analysis for vehicle mobility, viewshed analysis, flight planning and simulation, precision farming, soil analysis, change detection, and more. Together with GeoMedia and ISSG, ISDG provides an alternative to CAD-based workflows for feature and DTM collection and editing in a GIS environment. Working in a GIS environment provides additional tools and capabilities such as spatial filtering, custom queries, spatial analysis, data validation, and more.

ISDG is a member of the ImageStation software product family, which provides an integrated end-to-end high capacity and high-performance photogrammetric production solution. ISDG integrates with GeoMedia and other ImageStation modules including ISSG, ImageStation Automatic Elevations (ISAE), ImageStation DTMQue (ISDQ), and ImageStation OrthoPro (ISOP). ISSG provides interactive stereo collection of geomorphic features such as breaklines, obscured areas, and points. Collection boundaries can be digitized in GeoMedia or created from stereo model boundaries in ISSG. The geomorphic features are clipped to the collection boundaries and written to surface files by ISDG. ISAE uses the geomorphic data from the input surface files to assist the matching process.

The points from the surface files created by ISAE can be loaded back into the GeoMedia environment by ISDG and edited in stereo using GeoMedia and ISSG. Finally, ISDG can update the surface files with the edited points. The resulting triangulated surface files are suitable for use by ISOP for orthorectification and mosaicking, GeoMedia 3D or ERDAS IMAGINE® for visualization and analysis, and GeoMedia Advantage or Professional for grid analysis. ISDQ can be used to supplement an ISDG workflow with DTM file format conversion, coordinate transformations, tiling, merging, basic 3D viewing, and quality assurance and quality control tools for assessing accuracy.

Tools and Features

- Provides project management tools to create, open, close, and delete DTM projects consisting of a set of surface files over a project area.
- Supports SQL Server and SQL Server Spatial databases through a GeoMedia read/write data server warehouse connection for creating, viewing, and editing DTM features in the GeoMedia environment.
- Supports reading and writing surface files in .dtm format, which is a double-precision Triangulated Irregular Network (TIN) format. TIN format is recommended for use in photogrammetric, mapping, and engineering workflows for efficiency and accuracy.
- Allows users to assign GIS features in GeoMedia to ISDG geomorphic categories of points, breaklines, and obscured areas. GIS features can be digitized in GeoMedia and in stereo using ISSG, or can be accessed from a warehouse connection to any supported GIS database.
- Accepts source GIS feature data in any coordinate system and is transformed on the fly by ISDG to the coordinate system of the DTM project.



- Offers the option to create new surfaces from boundary features such as project area or stereo model boundaries created in GeoMedia or ISSG.
- Presents a tool to add geomorphic feature data to new surface files. Incorporating geomorphic feature data into surface files allows for a more accurate representation of the terrain surface for orthorectification and other uses, as well as an input to ISAE to assist with the matching process.
- Allows adding and removing of surface files from the DTM project.
- Provides tools to load and unload DTM data from surface files in the DTM project into the GeoMedia environment for review and editing in stereo using ISSG.
- Automatically generated points from ISAE are classified based on reliability as normal, out of threshold, or low redundancy. Manually collected points from ISSG are classified as mass points. ISDG recognizes these classifications and uses them to properly color-code the points on display, to highlight areas that need to be edited, to update the classification after editing, and save the classification back to file.
- Includes a style library that allows users to customize the display of points and geomorphic features, contour label symbology, and color-coding point classification of automatically generated points.
- Includes an option, when updating surface files, to triangulate or not triangulate as needed for input to orthorectification in ISOP or automatic matching in ISAE.
- Allows creation of surfaces for true ortho from GIS features for use by ISOP.
- Lets users view triangles and contours from surface files in the GeoMedia environment and in stereo using ISSG.
- Provides an environment for contours to be exported to a feature class for editing and printing.
- Includes the ability to calculate the cut and/or fill volumes between two surfaces (or between multiple pairs of surfaces) and create a report. The volumes can be calculated on the entire area of the surfaces or on selected area features.
- Includes the ability to drape existing 2D and 3D GIS features onto newly created or updated surfaces to create new features with updated Z values.

Requirements

- GeoMedia Essentials, GeoMedia Advantage, or GeoMedia Professional tier
- Recommended: GeoMedia Advantage or Professional tier, and ImageStation Stereo for GeoMedia
- SQL Server or SQL Server Express

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About Hexagon

Hexagon is a global leader in sensor, software and autonomous solutions. We are putting data to work to boost efficiency, productivity, and quality across industrial, manufacturing, infrastructure, safety, and mobility applications.

Our technologies are shaping urban and production ecosystems to become increasingly connected and autonomous — ensuring a scalable, sustainable future.

Hexagon's Geospatial division creates solutions that deliver a 5D smart digital reality with insight into what was, what is, what could be, what should be, and ultimately, what will be.

Hexagon (Nasdaq Stockholm: HEXA B) has approximately 20,000 employees in 50 countries and net sales of approximately 4.3bn USD. Learn more at hexagon.com and follow us @HexagonAB.

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