HEXAGON

Release guide
ImageStation 2023

Version 16.8
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Contents

About this release

This document describes the enhancements, fixes and system requirements for ImageStation. Although the information in this document is current as of the product release, see the Hexagon Geospatial Community for the most current version.

This release includes both enhancements and fixes. For information on new features, see "New technology". For information on fixes that were made for this release, see "Issues resolved". For information on hardware and software requirements, see "System requirements".

This document is an overview and does not provide all details about the product's capabilities. See the online help and other documents provided with ImageStation for more information.

ImageStation

The ImageStation® software suite enables digital photogrammetry production workflows, including project creation, orientation and triangulation from aerial and satellite imagery. It also provides stereo GIS feature collection and editing, digital terrain model (DTM) collection and editing, as well as orthophoto production and editing. ImageStation is specially designed for high-volume photogrammetry and production mapping customers who need to move large quantities of raw spatial information to an actionable or exploitable format.

New platforms

GeoMedia Desktop and core components

ImageStation products are now compatible with GeoMedia 2023 and its underlying core components, including shared Raster and Coordinate Systems technologies.

MicroStation

ImageStation products are now compatible with MicroStation CONNECT Edition Updates 16 and 17*, and OpenRoads Designer CE 2021. Please see the Impacts statement below.

Impacts

MicroStation CONNECT and OpenRoads Designer updates

ImageStation products that run in the MicroStation and OpenRoads Designer (ORD) CONNECT environment (ISSD, ISFC and ISDC) all use WorkSpaces and WorkSets to control the operating environment and allow the add-on programs to run successfully. Bentley Systems recently released **MicroStation Update 17, build 10.17.02.61**, which causes products to fail to start properly if the DGN file that is being opened has a WorkSet associated with it from an application that is not being started. For instance, if you have a DGN file that was opened with ISSD and then try to open it with standalone ISFC or ISDC the only options listed for WorkSets will be *ISSD* or *None*. ISFC nor ISDC will be listed as it should be, and therefore they will fail to start properly. The same problem also occurs with **OpenRoads Designer CE 2022 Release 2, build 10.12.1.59** and **OpenRoads Designer CE 2022 Release 3, build 10.12.2.4.**

Note that this problem does not occur with the MicroStation Update 17, build *10.17.1.62*, or any earlier versions of MicroStation CONNECT. It also does not occur with OpenRoads Designer 2022 CE Release 1.1, build *10.11.3.2,* or earlier versions.

If you are always opening your DGNs with ISSD and don't use ISFC or ISDC in standalone mode, then this will not be a problem for you. However, if you have your own custom configurations and WorkSets it may cause a problem for you.

A support ticket has been opened with Bentley Systems for which they have logged Bug # 1207731, but as yet have offered no solution. The only workaround is to open the DGN file in plain MicroStation or ORD, run the keyin command: *file disassociateworkset*, then exit. You will then be prompted properly for a new WorkSet the next time you open the DGN file with another application.

ImageStation OrthoPro (ISOP) and ImageStation PixelQue (ISPQ)

The option to specify a DGN file for adding a raster to UOR matrix in the output image files has been removed from the Image Output Options dialog as MicroStation has been able to recognize GeoTIFF tags for years and having a raster to UOR matrix that doesn't match the UORs of other DGN files can cause the image file to be improperly placed in MicroStation.

New technology

Licensing

A new product license is required for the 2023 release. The latest Geospatial Licensing 2023 application should be downloaded and used for this release.

Element Template and Level Name support

Support for the use of MicroStation element templates has been added to ISFC and ISDC. Element templates allow users to control the symbology of features globally from a single source DGNLIB file.

Both products, along with ISSD, have also been updated to make native use of level names instead of always applying a level number as was done in the past.

Path Resolver for OrthoPro projects

A new executable, *ResolveISOPPaths.exe*, is now delivered with OrthoPro to make files associated with OrthoPro projects easily resolved when the project has been moved to another system or folder location. This is safer and easier than having to manually edit the .OPJ file with Microsoft Access. Details are in Appendix G of the OrthoPro Help document.

New Stereo Mate capability

A new command has been added to ISPM; Tools >> Stereo Mates >> Ortho+DEM to Stereo. This command combines an ortho with corresponding surfaces to generate a left and right pair of images. It then creates an ImageStation project with photos and models made up from the stereo mates that can be used for stereo feature capture with ISSG and ISSD. Note that users must run the Generate Stereo Drives command prior to opening the project with ISSG. ISSD will generate the stereo drives automatically.

Coordinate Reference Systems

Support for EPSG codes has now been updated from version 9.8.15 to version 10.081 of the EPSG Geodesy Dataset. Support has been added for approximately 500 new EPSG codes as well as 46 new datum transformation entries in autodt.ini related to some of these new EPSG CRS codes.

System requirements[1]

Computer/processor	• Intel 64 (EM64T) or equivalent • Multi-core processors strongly recommended
Memory (RAM)	• 16 GB minimum
Disk space	• 8 GB for software delivery • Data storage requirements vary by mapping project[1]
Operating systems	• Windows® 10 (64-bit) • Windows® 11 (64-bit)
Database server engines	• Any GeoMedia-supported warehouse connection; see GeoMedia documentation for details on read-only and read-write database server connections and versions that are supported • SQL Server or SQL Server Express 2017, 2019 or 2022 (64-bit) is required for ImageStation DTM for GeoMedia
Software	**ImageStation is compatible with the following software packages and may require them, depending on the modules used.** Geospatial Licensing 2023 is required for setting up a concurrent license server for concurrent licenses and is optional for activating node-locked licenses. This is included in the ImageStation setup under Supporting Software. Geospatial Licensing 2023 can be installed on a single computer for a system administrator to set up and manage a concurrent license server for an organization, or it can be installed on every machine if desired. ImageStation Photogrammetric Manager • Spatial Modeler RTE 2023 required for importing satellite RPC and IMAGINE Photogrammetry projects. This is included in the ImageStation setup under Project Management/Orientations and also under Supporting Software. • ImageStation Image Formatter recommended. Licenses to run ISIF are included with ISPM. • NVIDIA Quadro/RTX graphics recommended. See the specifications below.

	ImageStation Automatic Triangulation
	- ImageStation Photogrammetric Manager is required - NVIDIA Quadro/RTX graphics, stereo-capable monitor, stereo glasses and 3D pointing device recommended. See the specifications below. ImageStation Satellite Triangulation - ImageStation Photogrammetric Manager and ImageStation Automatic Triangulation are required ImageStation Automatic Elevations - MicroStation CONNECT (Update 13, 14, 15, 16 or 17) or OpenRoads Designer CONNECT (R2, R3 or CE) required for writing data to DGN format, and must be installed first. ImageStation Automatic Elevations DSM - No prerequisites ImageStation DTMQue - Spatial Modeler RTE 2023 required for using ImageStation DTMQue Spatial Models (ISDQSM). This is included in the ImageStation setup under DTM Collection/Editing and Supporting Software. ImageStation Stereo Display ImageStation Feature Collection - MicroStation CONNECT (Update 13, 14, 15, 16 or 17) or OpenRoads Designer CONNECT (R2, R3 or CE) is required. - NVIDIA Quadro/RTX graphics, stereo-capable monitor, stereo glasses and 3D pointing device required for ISSD. See the specifications below. ImageStation DTM Collection - MicroStation CONNECT (Update 13, 14, 15, 16 or 17) or OpenRoads Designer CONNECT (R2, R3 or CE) is required. - ImageStation Stereo Display and ImageStation Feature Collection are recommended ImageStation Stereo for GeoMedia - GeoMedia Advantage or Professional 2023 is required - NVIDIA Quadro/RTX graphics, stereo-capable monitor, stereo glasses and 3D pointing device required. See the specifications below.

	ImageStation Stereo Viewer for GeoMedia • GeoMedia Essentials, Advantage or Professional 2023 is required • NVIDIA Quadro/RTX graphics, stereo-capable monitor and stereo glasses required. 3D pointing device recommended. See specifications below. ImageStation DTM for GeoMedia • GeoMedia Essentials, Advantage or Professional 2023 is required • GeoMedia Advantage or Professional 2023, and ImageStation Stereo for GeoMedia are recommended • SQL Server or SQL Server Express 2017, 2019 or 2022 (64-bit) is required ImageStation OrthoPro ImageStation PixelQue • GeoMedia Essentials, Advantage or Professional 2023 is required ImageStation Image Formatter ImageStation Raster Utilities • No prerequisites
Graphics boards	See table "Currently qualified graphics boards for stereo viewing"
Graphics displays	• See the NVIDIA Driver Configuration Instructions document for a list of supported monitors.
Peripherals	3D pointing device [Z/I Mouse, softmouse 3D, Stealth 3D Mouse (E-Type, V-Type or Z-Type) or TopoMouse] required for ISSD and ISSG, and recommended for ISSV and ISAT. Software security (Geospatial Licensing 2023) requires one of the following: • Internet connection for online license activation • Ethernet card for offline license activation • One USB port for hardware key for offline license activation

Currently qualified graphics boards for stereo viewing[2]

Graphics board	NVIDIA 3D Active 1 display	NVIDIA 3D Active 2 displays (stereo/mono)	NVIDIA 3D Active 2 displays (stereo/stereo)
RTX A Series	Yes	Yes	Yes
RTX T Series	Yes	Yes	Yes
Quadro GP100[5]	Yes	Yes	Yes[3]
Quadro RTX4000	Yes[3]	Yes[3]	Yes[4]
Quadro P6000[5]	Yes	Yes	Yes[3]
Quadro P5000[5]	Yes	Yes	Yes[3]
Quadro P4000	Yes[3]	Yes[3]	Yes[4]
Quadro P2000	Yes[3]	Yes[3]	Yes[4]
Quadro M6000	Yes	Yes	Yes
Quadro M5000	Yes	Yes	Yes[3]
Quadro M4000	Yes[3]	Yes[3]	Yes[4]
Quadro K6000	Yes	Yes	Yes
Quadro K5200	Yes	Yes	Yes
Quadro K5000	Yes	Yes	Yes
Quadro K4200	Yes	Yes	Yes[3]
Quadro K4000	Yes	Yes	Yes[3]
Quadro K2200	Yes	Yes	Yes[3]

System requirements notes

[1] Disk I/O is usually the slowest task in geospatial data processing. Faster hard disks improve productivity. Reading data from one disk, writing temporary data to a second disk and writing final data to a third disk improves performance. Disk arrays improve productivity, but some RAID options slow performance. Network disk drives are subject to network limitations.

[2] Refer to the *Installation Guide* in the ImageStation product delivery for driver version, installation and stereo configuration instructions.

[3] DP to DVI-D dual-link adaptor required for monitors using DVI ports.
Important - Be sure to get dual-link adaptors that are USB powered, such as the **BizLink XT625 (KS10014)** or the **Accell B087B-002B** (or **B087B-007B)** models. All DVI monitor cables must be **dual-link** DVI to support stereo display.

[4] Two DP to DVI-D dual-link adaptors required.

[5] These cards require 8-pin PCIe power cables. Make sure your computer's power supply provides this type of power cable or use a 6-pin to 8-pin PCIe power adaptor cable.

Active stereo displays require stereo glasses and an emitter. Since NVIDIA has discontinued their 3D Vision Kit, an alternative kit must be used. Alternative kits are available from Stealth International, 3DTV Corporation and Amazon.

Issues resolved

ImageStation Orientations (ISPM, ISAT and ISST)

Support ticket	Description
00035643	AATNT.exe is checking out a license even though ISAT is already running.
00086703	ISAT - PhotoT crashes if Linear or Dynamic GPS Corrections are enabled

ImageStation Stereo Display (ISSD)

Support ticket	Description
00098306	Tentative snaps don't release prior feature when snapping to the next adjacent feature.
00081453	Arcs display as chords in sterero view.
00099403	Switching DGN files gets stereo views into a bad state if ISDC is running.
00118453	Y and Z axis locks fail to freeze the stereo cursor motion.
00047719 00091124 00097033	ISSD fails to display custom line styles in the stereo views.
00054207	ISSD should ignore element templates if Level Overrides is enabled.
00081795	Large amounts of parallax in some stereo models.

ImageStation Feature Collection (ISFC)

Support ticket	Description
00093074	Place cell aligned has several problems.
00094025	ISFC_FT and ISFC_Offset_Path variables are not being honored in the .CFG files.
00061036	The Invoke Primitive option in the feature table isn't working.
00080767	Crash occurs if *offsets* are enabled and/or symbology is set to "By Level."
00023233	Allow snapping to text and cells when modifying elements.

ImageStation DTM Collection (ISDC)

Support ticket	Description
IG-26806	Define Point Symbology command causes points defined "By Level" to turn black.

ImageStation OrthoPro (ISOP)

Support ticket	Description
00081667	ECW output files are always set to metric units even if the output is supposed to be feet.
00084438	NAD83(NRS 2011) images are improperly georeferenced.
00023448	Seamline Generation sometimes fails along the edges of certain data sets with project boundaries that run at an angle.
00029202	Mosaic inserts to wrong location when using "NAD83 – United States."

ImageStation Raster Utilities (ISRU)

Support ticket	Description
00067929	Make Overview fails on some systems with "Not Enough Virtual Memory – Use Smart Swap" error.

ImageStation Automatic Elevations DSM (ISAD)

Support ticket	Description
00132517	Gaps and over-smoothing in output when compared to ISAE Ext.

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