

Leica Geosystems Release Notes

- when it has to be **right**

Leica
Geosystems

Product Leica Infinity
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From Kevin Hanson



Leica Geosystems AG
Heinrich-Wild-Strasse
CH-9435 Heerbrugg
Switzerland
www.leica-geosystems.com

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1 WELCOME TO INFINITY

INFINITY V3.6.1

We are pleased to announce a new Infinity version. Each Infinity release contains enhancements and improvements throughout the application. Please read the following chapters carefully to learn more about what is new.

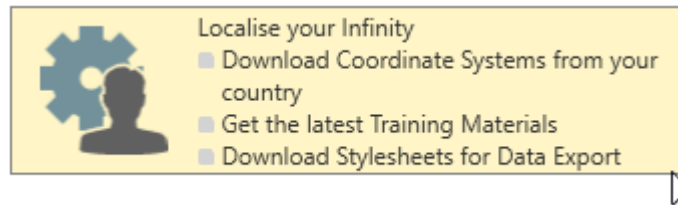
OVERVIEW:

- Point Clouds from Images: DJI GNSS post processing support
- Import / Export enhancements
- Bug fixes

GETTING STARTED – HELP & SUPPORT

Getting Started, users have access to information and useful data including Coordinate Systems, Stylesheets, Tutorials and sample data all available from the Localisation Tool.

From the **Help** menu, click on the **Localise your Infinity** button to access this data and the tutorials to help you get started with Infinity.



ORDERING INFINITY

Infinity can be ordered either as perpetual license or based on a subscription plan. Contact your local Leica representative to discuss what options are best for meeting your workflow needs.

YOUTUBE VIDEOS

Check the Leica Infinity YouTube page for what's new and how to videos.

https://www.youtube.com/playlist?list=PL0td7rOVk_IV_al3ziSKuAYA1VVu6W0rM



2 INSTALLATION DETAILS

INSTALLATION INFORMATION

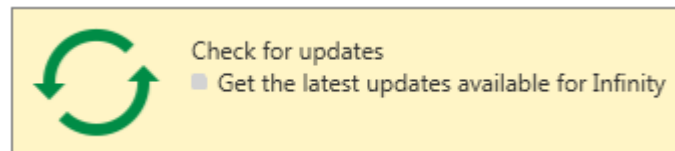
Leica Infinity v3.6.1	Build	Maintenance end date:
	35335	August 30 th 2021
<i>Infinity is available as a Windows 64bit only application</i>		

With an active CCP users will be able to update to this new version. Confirm that the maintenance end data is on or after the date listed above before installation.

New users can download the latest version from the Leica Geosystems myWorld support website.

CHECK FOR UPDATES

From Help & About choose **Check for updates**. When a new version is available you will be notified that the update can be downloaded from myWorld



OPERATING SYSTEM REQUIREMENTS

The following Microsoft® Windows™ operating system editions are supported:

- Windows 8
- Windows 10
- Windows 11

Note: you must have administrative privileges on your computer to successfully install Leica Infinity.

MINIMUM HARDWARE

- Display: 1024 * 768
- Input: Keyboard and mouse with wheel
- Processor: Multi-Core 2.4 GHz
- RAM: 8 GB
- Disk storage: 100 GB
- Graphics: DirectX9 compatible


RECOMMENDED HARDWARE

- Dual Display: 1920 * 1280
- Input: Keyboard and mouse with wheel
- Processor: Multi-Core 3.5GHz or greater
- RAM: 32 GB or greater
- Disk storage: SSD 1 TB or greater
- Graphics: DirectX11 compatible 4 GB memory or greater, CUDA capable


RECOMMENDED HARDWARE FOR IMAGE PROCESSING

- Dual Display: 1920 * 1280
- Input: Keyboard and mouse with wheel
- Processor: Multi-Core 3.5GHz or greater
- RAM: 64 GB or greater XMP enabled
- Disk storage: SSD 1TB or greater
- Graphics: DirectX11 compatible 8 GB memory or greater, CUDA capable

3 POINT CLOUDS FROM IMAGES: DJI GNSS POST PROCESSING

<p><i>POST PROCESS DJI UAV TRACKS</i></p> 	<p>Support for the import and processing of GNSS data collected by DJI UAVs. Post processing the GNSS data of a UAV flight is useful for improving the acquired image position quality. This option can be used to improve image positions collected from RTK UAV flights where not all images were fixed in position. As well, for users of UAV autonomous only flights, post processing of the UAV track will have a noticeable improvement in data quality. The GNSS Multi Frequency post processing option is required for this feature.</p> <p>A new Infinity tutorial has been published to explain how to import and process DJI UAV GNSS raw data to get the most accurate results from image processing.</p>
<p><i>IGNORE IMPORTED ROTATION VALUES</i></p>	<p>A new setting is available that allows the user to ignore the rotation values that are written in the image EXIF information. This can be used for importing DJI Zenmuse P1 image data where some images appear rotated inverse to other images.</p>


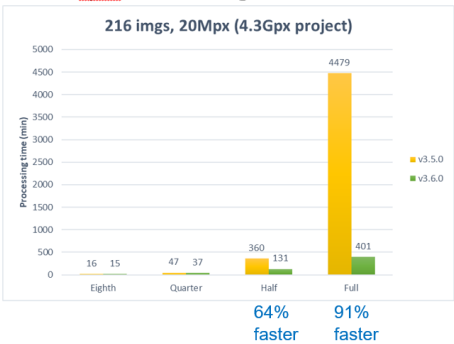
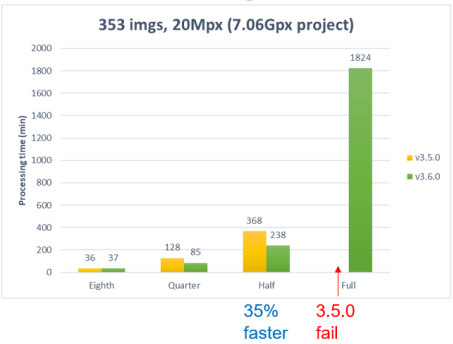
4 GENERAL APPLICATION IMPROVEMENTS AND FIXES

<p><i>IMPORT RINEX 3.05</i></p>	<p>Support of GNSS data RINEX v3.05.</p>
<p><i>SERVICES GNSS DATA DOWNLOADS</i></p> 	<p>For GNSS post processing users, access to precise ephemeris data requires a user account to authenticate access to the server provider. A new GNSS Data Downloads service is added in the backstage that lets the user enter user credentials.</p>
<p><i>LEICA CONX PROJECTS</i></p>	<p>Fix made that lets the user select a project. In some cases the users display settings prevented viewing the list of all projects.</p>
<p><i>REPORT VERSIONS</i></p>	<p>Fix the Infinity version displayed in reports, addressing some cases where the build and version number were shown incorrectly.</p>
<p><i>COORDINATE SYSTEMS</i></p>	<p>Fix to allow any geoid file type to be applied on local side.</p>
<p><i>INSPECTOR GNSS RESULTS</i></p>	<p>Fix for syncing the correct occupation mode of GNSS post processed results. In some cases the Inspector GNSS results and property grid were showing different modes.</p>
<p><i>EXPORT USING STYLESHEET</i></p>	<p>When exporting data using a stylesheet, a user can choose not to export other project data. This helps to not export such files as geoid files.</p>
<p><i>ELLIPSE NEO EXPORT</i></p>	<p>Fix for satellite tracking time status, when multiple rovers were processed with a single reference base.</p>
<p><i>EXPORT LGS</i></p>	<p>Fix for exporting multiple point clouds computed from images to LGS format. In cases when the point clouds had the same name, the export would fail.</p>
<p><i>EXPORT COORDINATE SYSTEM LOK FORMAT</i></p>	<p>Fix for a wrong offset applied to easting value when exporting the UTM47N coordinate system to LOK format.</p>

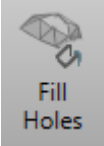
5 WHAT IS NEW IN V3.6

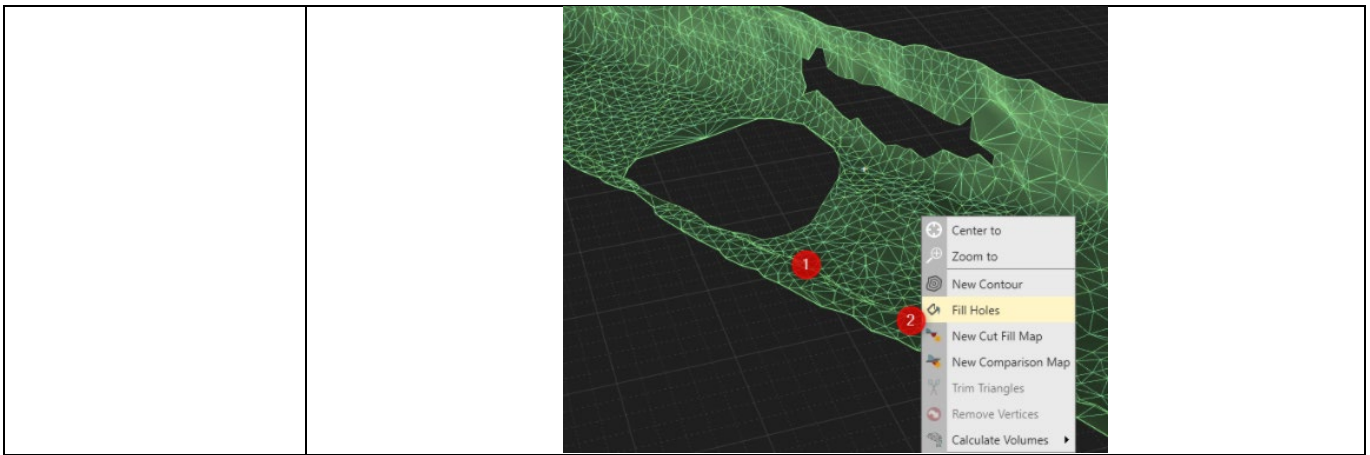
<i>OVERVIEW</i>	<ul style="list-style-type: none"> Point Clouds from Images: New point cloud engine with significant processing time improvements Surfaces: Updated meshing engine and additional editing tools Infrastructure Roads: Additional methods for creating detailed Material Surfaces from stringline or cross section based roads. Bug fixes and quality improvements
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6 IMAGING: NEW POINT CLOUDS FROM IMAGES PROCESSING ENGINE

<p><i>POINT CLOUDS FROM IMAGES</i></p> 	<p>Processing Point Clouds from Images brings a new point cloud processing engine that offers impressive improvements to processing times. Specifically the dense point cloud reconstruction engine has been optimized making benefit of all processor cores. Users having CPU's with 8 or more cores will realize more significant processing time improvements.</p> <p>The result of this optimization can be seen with these examples showing the processing time for Full and Half resolution point clouds is greatly improved.</p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>AMD Ryzen 3960X 24 cores@3.79 GHz RAM 128GB</p>  <p>64% faster 91% faster</p> </div> <div style="text-align: center;"> <p>Intel Core i9 10900X 10 cores@3.70 GHz RAM 128GB</p>  <p>35% faster 3.5.0 fail</p> </div> </div>
<i>SETTINGS: CAMERA CALIBRATION</i>	<p>A general change for computing the camera calibration values is applied for all UAV/UAS devices. This setting benefits the processing of the orientation of images, providing improved results and higher repeatability.</p>

7 SURFACES: UPDATED MESH ENGINE

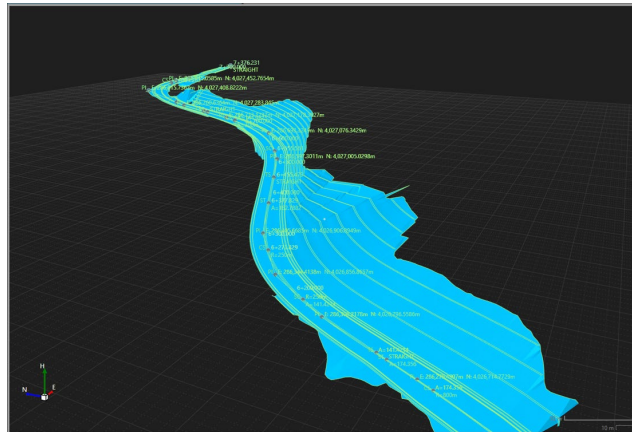
<i>CREATE SURFACES</i>	<p>Surface methods Refined, Regular and Interpolated all see improvements in the meshing results. The improvements provide better resolution in areas of smaller detail. The mesh in many cases will also reduce the number of triangles on flat regular areas.</p>
<p><i>FILL HOLES</i></p> 	<p>A new Surfaces editing tool provides users the ability to select and fill holes that may exist in a mesh result. Depending on the complexity and geometry of a surface, users can choose an interpolation setting to best determine how the hole shall be filled.</p>



8 INFRASTRUCTURE: MATERIAL SURFACES

MATERIAL SURFACE METHOD

Road features with material layers become more complex in design. When designs are using components and non-road features are included – such as water basins or sewer substructures - the creation of a Material Surface sometimes could leave holes or unwanted constraints in the surface. From Infrastructure Info & Settings, a user can set a Material Surface Method. Each method uses different deflection angle approaches to better consider these complex features that are part of the Road object.



9 GENERAL APPLICATION IMPROVEMENTS AND FIXES

EXPORT	SHP file export fix for polygon features defined by a closed line with a line code.
EXPORT	Captivate and SmartWorx export fix when a code had a mandatory choice list for the first attribute
EXPORT	When exporting large georeferenced images, it could happen when exporting using tiles depending on the coordinate system in use, the rotation was not applied.
GEOREFERENCE IMAGES	Fixed an issue where the X and Y axis were not defined, making it not possible to complete the georeferencing.
NETWORK ADJUSTMENTS	Fixed a crash when running the Pre-Analysis where only Level observations are considered and using the setting WGS84