Leica Geosystems

Release Notes

- when it has to be right

Leica Geosystems

Product	Leica Infinity
Date	1st September 2021
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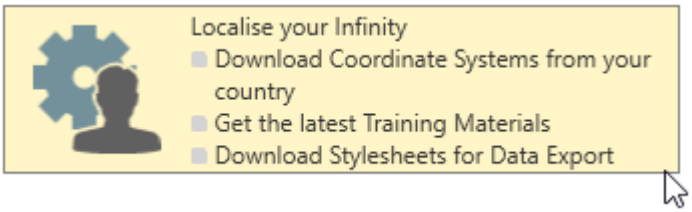
1 WELCOME TO INFINITY

INFINITY V3.6	We are pleased to announce a new Infinity version. Each Infinity release contains many enhancements and improvements throughout the application. Please read the following chapters carefully to learn more about what is new.
OVERVIEW: *WHAT'S NEW*	▪ 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
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. 
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

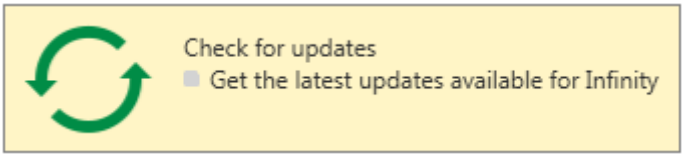
Leica Infinity v3.6	Build	Maintenance end date:
	35318	August 30th 2021
Infinity is available as a Windows 64bit only application		

With an active CCP, users will be able to update to this new version. Confirm that the maintenance end date 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 (recommended)

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

MINIMUM HARDWARE

- Display: 1024 * 768
- Input: Keyboard and mouse with a wheel
- Processor: Multi-Core 2.4 GHz
- RAM: 4 GB
- Disk storage: 50 GB
- Graphics: DirectX9 compatible

RECOMMENDED HARDWARE FOR POINT CLOUDS

- Dual Display: 1920 * 1280
- Input: Keyboard and mouse with a 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 a 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

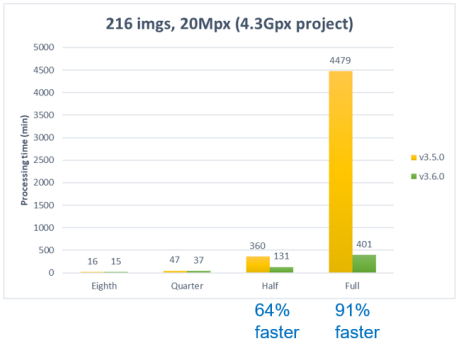
3 IMAGING: NEW POINT CLOUDS FROM IMAGES PROCESSING ENGINE

POINT CLOUDS FROM IMAGES

Processing Point Clouds from Images option brings a new point cloud processing engine that offers impressive improvements to processing times. Specifically, the dense point cloud reconstruction engine has been optimised and it benefits from utilising all processor cores. Users having CPUs with eight or more cores will realise more significant processing time improvements.

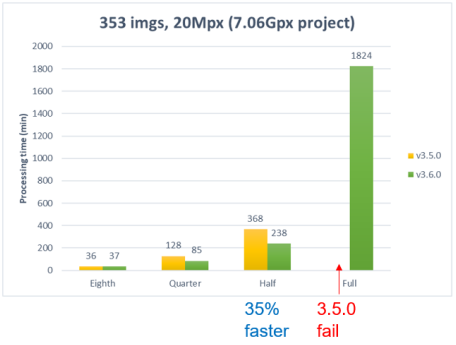
The result of this optimisation can be seen in the examples below. The processing time for *Full* and *Half* resolution point clouds is greatly improved.

AMD Ryzen 3960X 24 cores@3.79 GHz RAM 128GB



64% faster 91% faster

Intel Core i9 10900X 10 cores@3.70 GHz RAM 128GB



35% faster 3.5.0 fail

SETTINGS: CAMERA CALIBRATION

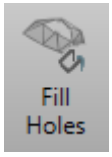
A general change for computing the camera calibration values is applied for all UAV/UAS devices. This setting improves the processing of the orientation of images, providing enhanced results and higher repeatability.

4 SURFACES: UPDATED MESH ENGINE

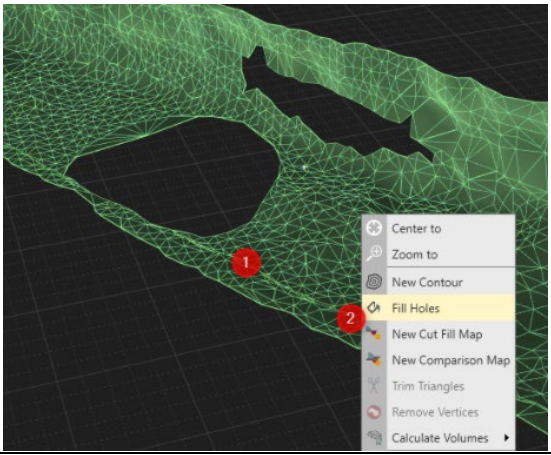
CREATE SURFACES

Surface methods *Refined*, *Regular* and *Interpolated* have improvements in the meshing results. The updates provide better resolution in areas with smaller details. The mesh, in many cases, will also reduce the number of triangles on regular flat areas.

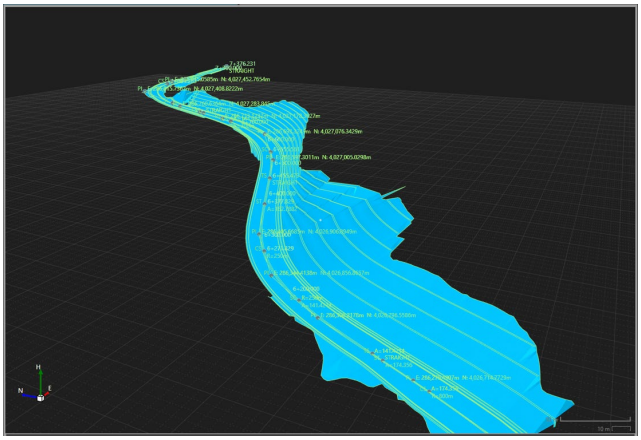
FILL HOLES



A new Surfaces editing tool allows users 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 determine the best way to fill the holes.



5 INFRASTRUCTURE: MATERIAL SURFACES

MATERIAL SURFACE METHOD	Road features with material layers become more complex in design. When designs 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 now set a *Material Surface Method*. Each method uses different deflection angle approaches to consider better these complex features that are part of the Road object, helping to arrive at the desired result.  

6 GENERAL APPLICATION IMPROVEMENTS AND FIXES

EXPORT	SHP file export improved for polygon features defined by a closed line and using a line code with attributes
EXPORT	Captivate and SmartWorx export improved when a Point Code has a mandatory choice list set for the first attribute. It could have been this first attribute was skipped on export.
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 Pre-Analysis where only Level observations are considered, and the user has chosen the setting WGS84
SURFACES	Fixed a crash where in some cases Refined or Regular used minimum triangle sizes less than the default
SURFACES	Fix for Regular surface creation that would close over itself when the source point cloud data had large height differences along the boundary