

October 2024, Version 15.0.0 and 15.0.1

November 2024, Version 15.0.2

February 2025, Version 15.0.3

March 2025, Version 15.0.4

Release Notes for UASMaster 15

Trimble Inpho Version 15.0.4

Trimble announces the fourth patch for version 15. The reason for this version are bug fixes. A new license is not necessary in case version 15 is already running.

Trimble Inpho Version 15.0.3

Trimble announces the third patch for version 15. The reason for this version are bug fixes. A new license is not necessary in case version 15 is already running.

Trimble UASMaster Version 15.0.2

Trimble announces the second patch for version 15. The reason for this version are not updated DLLs. We urgently recommend to update the installed version 15. A new license is not necessary in case version 15 is already running.

Trimble UASMaster Version 15.0.1

Trimble announces the first patch for version 15. The reason for this version is a bug in orthophoto processing in version 15.0.0. We apologize to all customers who had already downloaded version 15.0.0 before the download was blocked.

Trimble UASMaster Version 15.0.0

Trimble announces version 15 for UASMaster software. This major release offers new features in addition to bug fixes.

General notes and information:

Version 15 needs a license update. Customers with maintenance automatically received the license update. A valid license for version 15 works for all versions down to 11.0.5. Older versions are not

supported with the new license.

Version 15 projects are using an updated project file version. Projects generated with version 15 are not compatible with earlier ones. Older project files can be updated to the new project file version.

Be aware of installing an updated Microsoft redistributable in case you do not install the bundle of version 15. The redistributable “vcredist_2015-2022_x64.exe” is available on our download area.

Inpho software offers multi-user support on Server Operating Systems.

We recommend installing the latest available CodeMeter Runtime version. It is included in the Bundle installation and available on our download page under 3rd Party Products as well on the WIBU homepage (www.wibu.com).

We recommend installing the latest Coordinate System Manager version. It is included in the Bundle installation and available on our download page under Trimble Photogrammetry (Trimble Coordinate Systems (TCS)_<version>).

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What's new in UASMaster 15!

Trimble RealRay Technology

Users of UASMaster version 15 gain a competitive advantage by delivering projects with higher accuracy and quality, setting a new standard in the industry.

Precise Modeling

The introduction of RealRay technology in version 15 ensures the highest level of precision achieved in georeferencing, significantly reducing errors caused by environmental factors. RealRay technology is integrated into the complete mapping workflow (nadir imagery) allowing high-altitude flights, oblique flights, or challenging mountainous terrain. UASMaster delivers consistent and reliable results across any of these scenarios, especially in coordinate systems with large projection extents.

Simplify Workflows

Version 15 simplifies complex processes, allowing users to achieve optimal results enhancing overall productivity. Orthophoto production in large extent coordinate systems (e.g. Lambert), can now be processed without any loss in accuracy.

Better quality results

The "Precise" correction mode not only improves georeferencing but also elevates camera calibration to new levels of accuracy, ensuring superior quality in imaging projects.

Support of high-resolution Imagery

UASMaster now offers a matching level of 1:8, which should be used as an initial first run for such images followed with a subsequent run performed at a level of 1:4 or 1:2 or 1:1.

Improved Inspection and Construction

UASMaster improved the reconstruction quality and runtime for data sets containing thin structures, e.g. power lines, railings, masts, allowing cleaner and better results for inspection workflows for complex entities documented with ample redundancy.

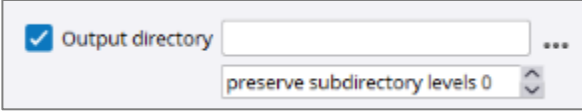
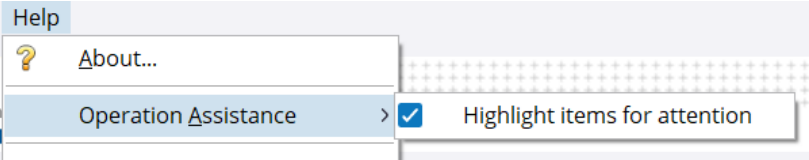
Mesh Optimization

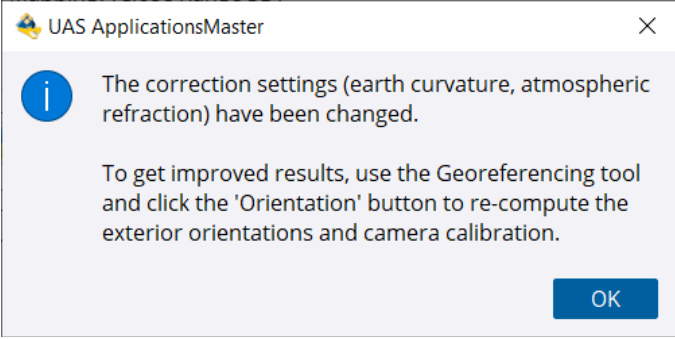
The mesh conversion processes are enhanced by the delivery of an optimized color adjustment as well as faster conversion speed of mesh for optimized processing.

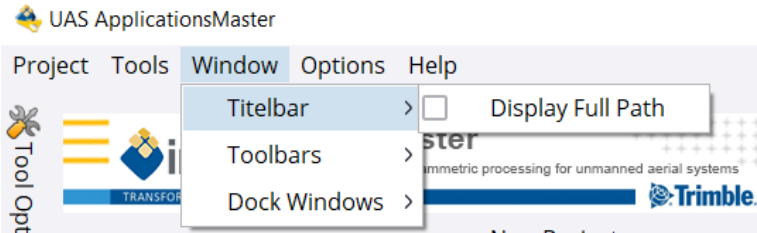
There are more features in this version that can be found in the Release Notes. As usual, the Inpho team has improved the stability and usability through bug fixes in version 15.

List of Changes

Main window and project handling

Change	Description
New Feature 15.0.4: Image Commander – Output path option	<p>The user has now the option to use a different output path when deleting overviews. Then the original images with pyramids stay in the previous directory, and the new images without pyramids are stored in the new output path.</p> 
Information 15.0.3: Installation	<p>When you install the bundle of our software your WIBU CodeMeter driver will be automatically updated. If you prefer to install the software components (.msi files) instead, you will have to install the new driver yourself. It can be found in the “3rd Party” folder.</p>
Improvement 15.0.3: Updated PDF Writer	<p>The PDF Writer is updated for version 15.0.3. The previously used version could display Cybersecurity warnings</p>
Improvement 15.0.3: New option “Operation Assistance”	<p>With version 15, a highlighting of the tool options for functions with additional options was implemented. This is intended to point the user to existing options. Since some customers find this disruptive to their workflow, the option has now been created to deactivate it. You can find this option in UASApplicationsMaster under “Help > Operation Assistance”.</p> 
Fix 15.0.3: Popup message in Image Commander	<p>When converting 16-bit images with radiometry adjustment to 12-bit JPEG during pyramid generation, an error message showed that the image file cannot be closed. The Image Commander now opened a message window for each image processed, which was very annoying when many images were loaded. Now prevents error popups in Image Commander caused by pyramid generation with radiometry adjustment enabled.</p>
Fix 15.0.3: Sending *.LAZ files to TBC	<p>If the UAS engine generated the point cloud files in *.LAZ format, these files were not sent with the “Send to TBC” command. This has been fixed.</p>

Fix 15.0.3: "Send to TBC" command	<p>When using the "send to TBC" command, the output data like point clouds etc. was kept duplicated in the "BC_DATA" folder.</p> <p>This has been changed that after the "Send to TBC" command the data is removed. The original UASMaster output is still kept in its original folder structure.</p>
Fix 15.0.3: TCS – selecting USft systems	<p>Although a "feet" system was selected in the Trimble coordinate system database when setting up a project, the units were still in meters and needed additional adjustment. Now when you select a "feet" system, the units are automatically set to USft and can no longer be changed.</p>
Fix 15.0.2: Not updated DLLs	<p>When creating version 15.0.1, some DLL files were not updated. This can lead to unexpected behavior, such as non-ideal initialization for reconstruction. We urgently recommend installing patch version 15.0.2.</p>
Information 15.0.0: New license required	<p>Version 15 requests a new license. User having a valid maintenance contract will receive automatically their new updated license file.</p>
Information 15.0.0: New project file version	<p>Version 15 projects using an updated project file version. Projects generated with version 15 are not compatible with earlier ones. Older project files can be updated to the new project file version.</p>
Information 15.0.0: Conversion of previous project file to version 15	<p>In case an older project file is opened in version 15, a conversion of the project file takes place. This is followed by an information window which informs the user about the necessary steps in case a processing should be performed.</p>  <p>The screenshot shows a dialog box titled "UAS ApplicationsMaster" with a close button (X) in the top right corner. On the left is a blue information icon (i). The text reads: "The correction settings (earth curvature, atmospheric refraction) have been changed." Below this, it says: "To get improved results, use the Georeferencing tool and click the 'Orientation' button to re-compute the exterior orientations and camera calibration." At the bottom right is a blue "OK" button.</p>
Information 15.0.0: New MS VC Redistributable	<p>A new Microsoft VC Redistributable (vcredist_2015-2022_x64.exe) is required to operate our software. The 15.0 bundle installer installs it automatically. If the individual MSI files are used, VC Redistributable must be installed manually. The file can be downloaded from our website.</p>
Information 15.0.0: Update of internal image library	<p>The library to read and write images in the software was updated. This includes fixes and security updates. (E.g. better handling when working with corrupt images.) Due to this upgrade the support for pseudo 16 bit JPEG compression in TIFF files was removed. This compression method was established by LH systems for ADS40 cameras around 2002. Sensor data was reduced from true 16 bit depth to 8 bit using a min/max search and subsequently compressing the reduced 8 bit data. On reading such compressed images, the 8 bit data was upscaled to 16 bit by applying the previously found min/max values. Compressed TIFF images using 16 bit JPEG</p>

	<p>will no longer be readable in this and future versions of ApplicationsMaster and UASMaster.</p> <p>As a workaround, such image files may be converted to 12 bit JPEG or uncompressed 16 bit using a previous version (up to 14.1.0) of the Image Commander (imgcom) and/or the command line tool make_pyr.exe.</p>
<p>New Feature 15.0.0: Real Ray correction</p>	<p>In version 15 a new improved correction for earth curvature, refraction and projection effects is implemented. Applying the "Precise" correction shows significantly better results for georeferencing and camera calibration and the subsequent deliverables. The "Precise" setting for Earth Curvature and Refraction is fixed for the nadir workflow.</p> <p>Please note that the new "precise" correction model is a proprietary correction model that can be used in INPHO software only</p> <p>If the project file or project deliveries is to be exported to 3rd party software, deactivate earth curvature and refraction for the complete workflow. Also the 3rd party software (e.g. DAT/EM SummitEV needs to disable Earth Curvature and Refraction to get parallax-free models).</p> <p>If the final results (point cloud, mosaic) are to be sent from UASMaster to TBC APM, the "Precise" correction should be used.</p> <p>Using UASMaster (Close Range 3D) no correction is applied.</p>
<p>New Feature 15.0.0: Display full file path as option</p>	<p>By default, the project file path was truncated in the title bar. The user can now decide optionally if the complete file path or a truncated path should be displayed. Settings can be modified in the UAS ApplicationsMaster > Windows > Titelbar settings and impact the displayed file path for the majority of the follow up modules.</p>  <p>The screenshot shows the UAS ApplicationsMaster application window. The 'Window' menu is open, showing options for 'Titelbar', 'Toolbars', and 'Dock Windows'. The 'Titelbar' option is selected, and its sub-menu is visible, showing a checked box for 'Display Full Path'. The background shows parts of the software interface, including toolbars and a logo for Trimble.</p>
<p>Improvement 15.0.0: UASMaster and high-resolution images</p>	<p>Previously, 3D Reconstruction was not successful for high resolution images, even if the image size did not exceed 150 Mpixel. UASMaster now offers a matching level of 1:8, which should be used as a first run for such images. To increase the accuracy of the matching, a subsequent run can be performed at a level of 1:4 or 1:2 or 1:1.</p> <p>Note: UASMaster does not support distortion values offered in "table" format.</p>
<p>Improvement 15.0.0: Temporary storage of processing settings</p>	<p>Previously the software resets the display of the processing settings back to the default values. This could be very annoying when you want to redo processes or check settings.</p>

	Now the settings are stored as long as a module is open. Open or re-open a project resets the settings to default.
Improvement 15.0.0: Spanish user interface	The Spanish interface has been revised and missing translations have been added.
Improvement 15.0.0: Update of Inpho Coordinate System (ICS) database	The Inpho Coordinate System database now provides the German geoid GCG2016.
Improvement 15.0.0: Update of Trimble Coordinate Systems (TCS) database	The bundle installer provides the newest Trimble Coordinate Systems database version 3.10.3.
Improvement 15.0.0: Text information in generated TIFF and LAS files	TIFF images and LAS files written by our software now contain detailed version information in the relevant file header tags. This can be viewed using tools like “tiffinfo” and “lasinfo”. There is no impact on older software versions when using images generated by newer versions. These tags are for informational purposes only.
Improvement 15.0.0: DJI Matrice 30 (M30T)	The DJI M30T camera has been added to the sensor data base. Therefore, the camera is automatically created when importing of the images and reading their EXIF header information.
Fix 15.0.0: Transformation using local coordinate system from TGL	In case a local site coordinate system was defined in Trimble Business Center (TBC) and transferred to INPHO, then the transformation between systems was limited. This has now been changed that the coordinate system is fully transferred and can be used for transformations. Note: The definition of a local site directly in INPHO is currently not supported.
Fix 14.1.2: Slow creation of Project Overview	The “Quick Orthophoto” option (in the Batch Processing menu) is using now 8xGSD (Ground Sample Distance) as default value for the output resolution. This will prevent the process from taking too long.

Georeferencing

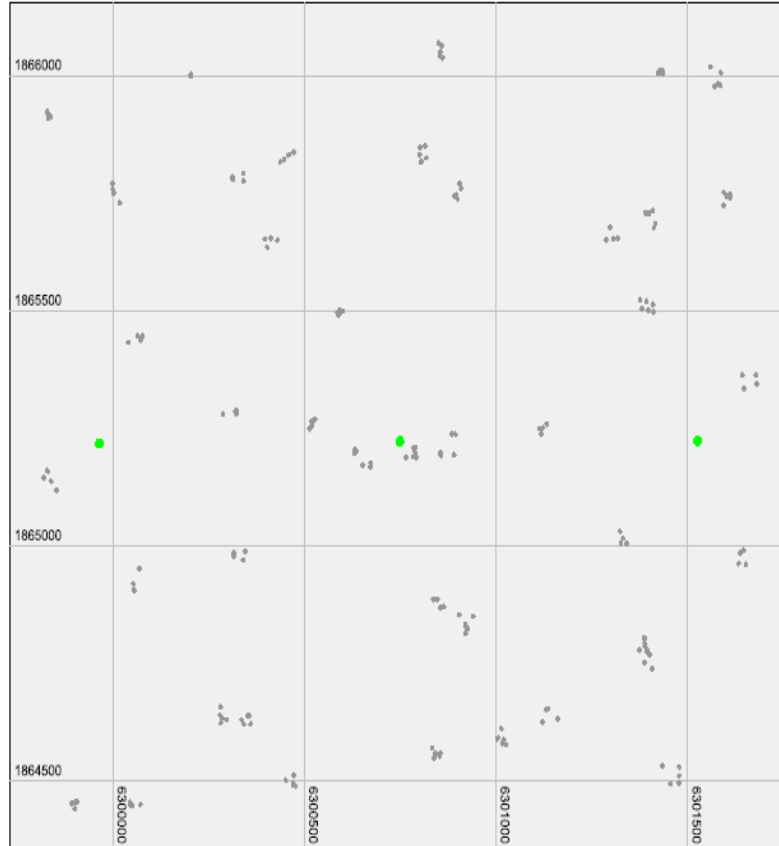
Change	Description
Improvement 15.0.3: Representation in PDF report file	For projects with a large west-east extension but only a small north-south extension, the grid coordinates overwrote the content of the graphics for the photo positions and the standard deviations of the external orientation. Example:

Photo positions (XY) Version 15.0.2



Graphic with camera locations of 3 photos from the project. The area has a planimetric extent of about: 1639 x 84 [ft (US)].

Photo positions (XY) Version 15.0.3



Graphic with camera locations of 3 photos from the project. The area has a planimetric extent of about: 2035 x 1802 [ft (US)].

Fix 15.0.3: Points outside sensor area

The georeferencing PDF report file could show information that point are outside the sensor area. This has been fixed.

Fix 15.0.0: Missing entry in the PDF report file

Vertical ground control point coordinates were not displayed in the PDF report file if they were imported (Ground control points- Ground control points from statistic file). Now they are available in the report file.

Surface and Orthophoto Generation

Change	Description
Information 15.0.4: Removal of Layer Template Editor	The Layer Template Editor has been removed from UASMaster. Due to the fixed File and Layer structure, there is no option to add new files and layers. Of course it is still possible to add templates specifying the visibility/color etc. of the existing layers.
Improvement 15.0.3: Color balancing	Quality and runtime have been improved and memory peaks during global color balancing have been reduced.
Improvement 15.0.3: Stereo model selection	During the stereo model selection step, the memory peak is reduced.
Improvement 15.0.3: 3D mesh	The reconstruction quality of the 3D mesh has been improved to be more complete and to better preserve details when zooming out of the mesh.
Improvement 15.0.3: Cesium "3D Tiles" meshes	The streaming performance of 3D Tiles meshes has been slightly improved.
Improvement 15.0.3: Point cloud	The runtime of the point cloud step and the quality of the point cloud has been improved.
Improvement 15.0.3: Water bodies	The use of water body shape files has been made more stable.
Improvement 15.0.3: Update libraries	Some 3 rd Party libraries have been updated.
Fix 15.0.3: Correct determination of scale	With the determination of the automatic 3D area borderline the image scale is calculated using the footprint heights. The footprint heights (height from the photo definition) will be adjusted to a local or global DEM. So far the original footprint height was used for the scale determination. Now the corrected footprint height is used. Especially in mountainous areas where the global terrain height value in the photo definition differs from the real terrain height the scale value is now more accurate. This value is used internally for the further parametrization.
Fix 15.0.3: Data gaps	Fixed an issue that in rare cases could lead to data gaps in low overlap nadir flights.
Fix 15.0.3: Dense matching step	Fixed an issue that in rare cases could lead to missing points in the "dense matching" step.
Fix 15.0.3: Missing texture in mesh	In case a special character like "ö" or else was included in the path of the working directory, the texture of the mesh was missing. This has been corrected.

Fix 15.0.3: Automatic 3D area borderline	For projects with an unsystematic flight geometry the automatic 3D area borderline could sometimes not cover the complete project area for numerical reasons. The problem is solved.
Fix 15.0.1: Orthophoto processing failed	Unfortunately the processing of orthophotos (classic or true) failed in any case. This has been fixed.
Improvement 15.0.0: Better reconstruction of thin structures	Improved reconstruction quality and runtime for data sets containing thin structures, e.g. power lines, railings, masts.
Improvement 15.0.0: Mesh Converter optimization	The new version provides an optimized color adjustment of the mesh.
Improvement 15.0.0: Conversion speed of large i3s/slpk meshes	The conversion speed from osgb to i3s/slpk meshes is significantly improved.
Improvement 15.0.0: Speed optimization for distributed processing	The order of subproject creation when using distributed processing is improved to increase throughput and enable early quality assurance.
Improvement 15.0.0: Lowered peak memory	The new version needs less RAM consumption in the analysis step.
Improvement 15.0.0: slpk and 3d_tiles meshes	The generation of slpk and 3d_tiles meshes has been improved.
Improvement 15.0.0: Automatic check for specific parameters for user defined settings in the status file	A wrong user definition in the status file led to processing problems. Now the software automatically checks for specific parameters if a user defined setting from the status file could be valid (here overlap parameter set to 0) and overwrites it in case it is not reasonable with default values.
Change 15.0.0: Viewers now have to support version 1.7	Redundant information has been removed from slpk networks that were required to support older i3s versions. Viewers must now support version 1.7 of the i3s texture format.
Fix 15.0.0: Superfluous files	Fixed an issue that could lead to superfluous files during the generation of the quality criteria files (VRT).
Fix 15.0.0: Corrupt images during image preparation	Fixed an issue that could, in rare cases, result in corrupted images during image preparation (generating the image pyramids and converting the images to “.mrf” format).
Fix 15.0.0: Problem during analysis step	Fixed an issue where during the Analysis step a numerical stability error check could appear.

Fix 15.0.0: 3D Tiles validator compatibility	Fixed an issue for Cesium/3d_tiles mesh generation. The generated meshes are written in 3D Tiles version 1.0 which is fully compatible with the 3D Tiles 1.1 specification.
Fix 15.0.0: OBJ mesh compatibility with third-party applications	Fixed an issue with third-party viewers for OBJ meshes.
Fix 15.0.0: Missing quality criteria (VRT file)	In rare cases, the VRT file (quality criteria file) for True Ortho and DSM generation was not created. This issue has been resolved.
Fix 15.0.0: Initialization of quality criteria (VRT file)	The problem of a missing parameter initialization in quality criteria file (VRT) has been resolved.
Fix 15.0.0: Project area too large using a manual shape file	Fixed an issue where the project area might get too large when a manual shape file is provided.
Fix 15.0.0: Zooming of i3s/slpk meshes	Fixed an issue with i3s/slpk meshes not zooming correctly in third-party applications for certain input coordinate systems
Fix 15.0.0: Possible crash – network overload	Fixed an issue that could lead to a crash of the application if the network is under high load.
Fix 15.0.0: Rectifier cropping not correct	The rectifier preprocessing step produced incorrect output, resulting in black pixels in the image.
Fix 15.0.0: Orthophoto from point cloud	The orthophoto generation from point cloud failed. This was fixed.
Fix 15.0.0: Performance enhancement	The orthophoto generation was slower in version 14 than in version 13. This was fixed.

Information

For more information, please contact your Trimble Inpho Support Team at imaging_support@trimble.com. The software is available for download on:

<https://geospatial.trimble.com/en/products/software/trimble-inpho-uasmaster/download>