

## What's new in Inpho 5.6



### About

With Inpho 5.6, Trimble adds a new module to its photogrammetric processing software. UASMaster is designed for the complete processing of data acquired with Unmanned Aircraft Systems (UAS).

Key to the software release is the introduction of the UASMaster which allows photogrammetry-grade processing of data acquired by any type UAS, combining the workflow from georeferencing through dense point cloud matching to ortho-mosaic generation in one single product. UASMaster combines traditional photogrammetry with modern computer-vision algorithms and focuses on flexibility, thorough quality analysis, detailed reports and efficient editing functionality. Optional black-box processing is available. UASMaster is fully compatible with Inpho photogrammetric software modules aiming at the advanced user.

In addition, Inpho 5.6 delivers improved performance, workflow integration and result quality. Inpho 5.6 comes with localized user interfaces in English and German.

### Availability

The Inpho 5.6 software suite is available now through Trimble's Inpho distribution channel. Customers with a valid maintenance contract for an Inpho software module will receive the upgrade free of charge.

### Overview

#### UASMaster – photogrammetry-grade processing for remotely piloted aircraft systems

##### Traditional photogrammetry combined with modern computer-vision algorithms

- Reliable and well-proven photogrammetric strategies for stable and high-quality results based on 30 years of experience on Inpho technology
- New modern computer-vision techniques for successful processing of the most challenging projects
- Use of Trimble OrthoVista mosaicking and color balancing exclusively engineered by and exclusively made available to Trimble

##### Streamlined Workflow

- Highly integrated workflow combining georeferencing, camera refinement, dense point cloud matching (surface or bare-earth) and ortho mosaic generation
- Quick "black-box" processing
- Task monitoring

##### Flexibility, Scalability

- Easy to use "guided-workflow" concept for the photogrammetric novice
- Detailed and thorough quality assurance tools and reports
- Highly effective interactive context-driven and automated editing capabilities for georeferencing and pointclouds including morphological data creation (e.g. break-line measurements), classification and filtering and many more
- Stereoscopic 3D visualisation supporting professional 3D cursors
- Fully compatible with high-level Inpho photogrammetry modules
- Complete solution with additional components e.g. for stereoscopic mapping into CAD/GIS, automatic feature extraction (Trimble eCognition) or geo-analysis

##### Open for any fixed-wing, helicopter-type or other hardware

- Process data from any type of RPAS
- Multi-camera support (cameras up to 40Mpix)



\*other related products from Trimble:

- Trimble UX5, X100 fixed-wing UAS hardware
- Trimble Business Center – Photogrammetry Module for surveyors with a special focus on ease of use

## Localized user interfaces

### Additional Language Packs

- User interfaces now in English and German.

### Translation tool on request

- For languages not yet supported, a very intuitive GUI translation tool is available. A new language pack can be made easily available upon request.



## Usability – Workflow - Productivity

### New ApplicationsMaster interface

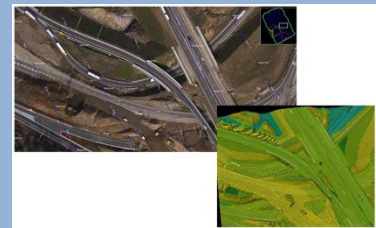
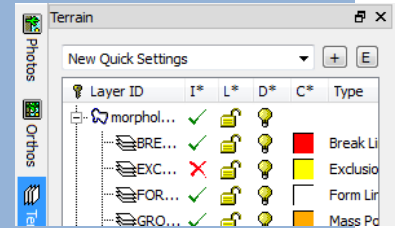
- Re-design showing project content for a better overview
- Imagery, topology, ground control for quick inspection

### GUI Re-designs und refined tools

- Unification of user interfaces (photo-measurement – DTMaster)
- Re-organized tool groupings and more complete context menus (right mouse button)
- Storing complex display settings for later reference in DTMaster
- New analysis functionality and selection tools for MATCH-AT's photo measurement tool

### Productivity

- On-the-fly point-cloud coloring from aerial images during dense matching with MATCH-T DSM
- Quality and robustness enhancements for MATCH-T for more challenging projects
- Full camera calibration capability now also available with MATCH-AT Lite
- Optimized performance in ortho-mosaicking generally and especially for pushbroom imagery
- Multiple ortho areas per aerial image
- Enhanced batch-capability in DTMTToolkit for maximum automated throughput



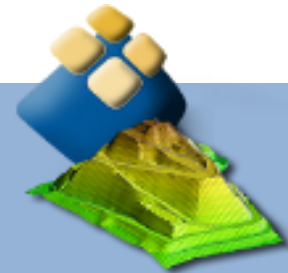
## SCOP++ 5.5.2 and TopDM 5.6.1 patches

### New Features in TopDM

- Improved georeferencing using pre-defined coordinate systems
- LiDAR point cloud administration
- Automatic data table creation
- Export with user defined tiling options
- Full support for TPIX structures for usage in DTMaster or DTMTToolkit
- Qualified thin-out for DTM

### Fixes

- The patches provide for a variety of important fixes and improvements



## Inpho 5.6 at a Glance

Inpho Module	Functionality	Benefit
ApplicationsMaster	Localized user interfaces	<ul style="list-style-type: none"> <li>Language support offers a more confident and intuitive workflow environment</li> </ul>
	New user interface	<ul style="list-style-type: none"> <li>New project overview with images, topology and ground control for quick inspection and better overview over project status</li> </ul>
	Support for LAS 1.4	<ul style="list-style-type: none"> <li>The whole system now supports for up to date LAS 1.4 point cloud data</li> </ul>
UASMaster	Full automatic UAS processing software with editing capability	<ul style="list-style-type: none"> <li>Photogrammetry-grade solution</li> <li>Highly effective and reliable</li> <li>Proven accuracy</li> <li>Complete solution combinable with other Inpho modules</li> <li>From photogrammetry experts for advanced users</li> </ul>

# Inpho 5.6 at a Glance

Inpho Module	Functionality	Benefit
Match-AT	Enhanced visual aerial triangulation analysis and editing	<ul style="list-style-type: none"> <li>• New image selection methods</li> <li>• New connectivity analysis for more efficiency and reliability</li> </ul>
	Full Camera calibration available also with Lite version	<ul style="list-style-type: none"> <li>• Enables calibration also for users processing only up to 250 images</li> </ul>
inBLOCK	10x faster approximations calculation	<ul style="list-style-type: none"> <li>• Higher performance = higher productivity for larger projects</li> </ul>
MATCH-T	On-the-fly point cloud coloring	<ul style="list-style-type: none"> <li>• Colorization of point clouds from aerial images directly integrated into the matching process saves an extra step and time</li> </ul>
	Quality and robustness improvements	<ul style="list-style-type: none"> <li>• Get a higher quality point cloud even for more challenging datasets</li> </ul>
DTMaster	Re-organized GUI	<ul style="list-style-type: none"> <li>• Homogeneous look-and-feel with georeferencing tools</li> <li>• Easily find the right tool within a given context</li> </ul>
	Enhanced editing workflow	<ul style="list-style-type: none"> <li>• Increased efficiency, intuitive to use</li> </ul>
	Storable complex display settings	<ul style="list-style-type: none"> <li>• Be effective with very large projects and complex file and layer structures</li> <li>• Restore complex settings for specific editing tasks</li> </ul>
OrthoMaster	Multiple ortho areas per input image	<ul style="list-style-type: none"> <li>• Improved performance for projects with large coverage, such as satellite scenes</li> </ul>
	EO-conform display of input images	<ul style="list-style-type: none"> <li>• Do area definitions much more precisely with pre-rectified imagery</li> </ul>
OrthoVista	Optimized seams esp. for pushbroom imagery	<ul style="list-style-type: none"> <li>• Higher quality seams result in less need for editing</li> <li>• All optimizations in OrthoVista lead to a better quality product and a better profitability</li> </ul>
	Expanded cache-size limits	<ul style="list-style-type: none"> <li>• Process complex ortho projects faster</li> </ul>
DTMToolkit	Extended batch capability	<ul style="list-style-type: none"> <li>• Better productivity and shorter project cycles for very large workloads</li> <li>• All operations can now be streamlined into a batch routine for more automation</li> <li>• Datum transformations can be processed for a whole group of files</li> </ul>
	Consistency check for TPIX	<ul style="list-style-type: none"> <li>• Easily inspect large TPIX point cloud tile structures</li> </ul>

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