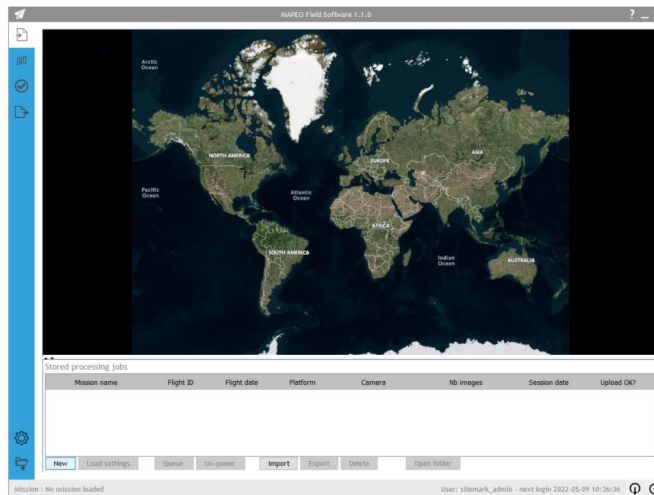# Field Software – Quick start guide

DISCLAIMER

The material in this 'Field Software – Quick start guide' is for informational purposes only. Its information, software, procedures and applications are subject to change without prior notice, due to VITO's continuous development program.

VITO makes no representations or warranties with respect to this 'Field Software – Quick start guide' or with respect to the information, software, procedures and applications described herein.

VITO shall not be liable for any damages, losses, costs or expenses, direct, indirect or incidental, consequential or special, arising out of, or related to the use of this 'Field Software – Quick start guide' or the information, software, procedures and applications described herein.
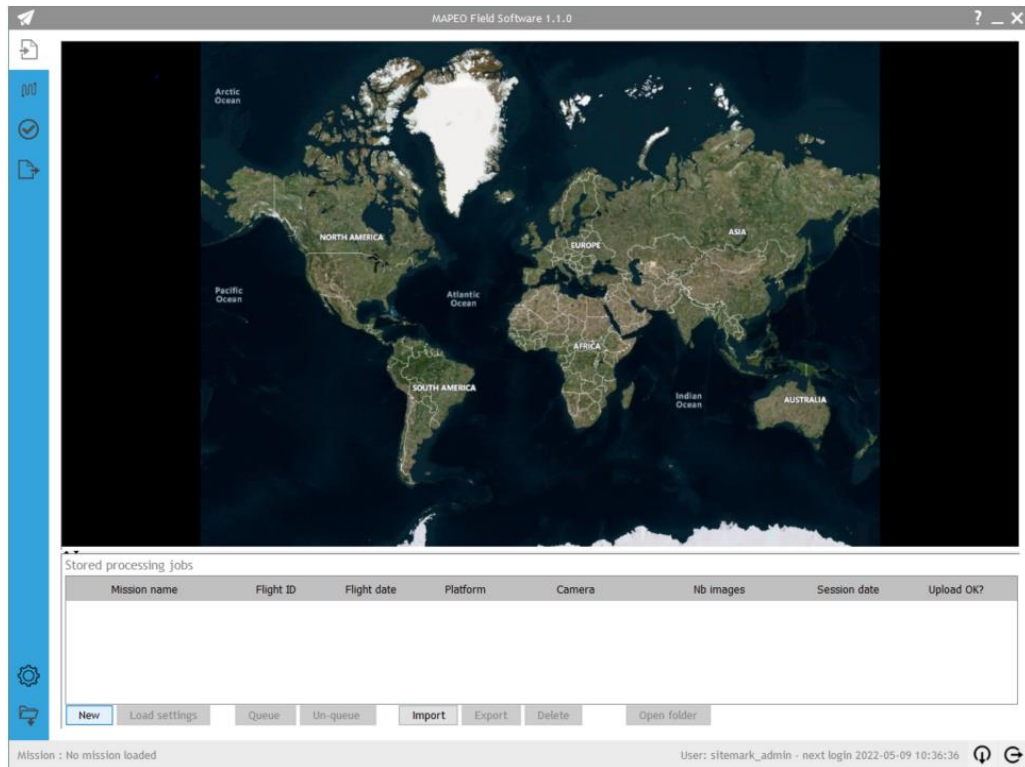
Field Software – Quick start guide

MapEO Field Software Manual

Field Software

1. Download field software tool and manual
https://remotesensing.vito.be/software/uav-pc/fieldsoftware/MAPEO-Field-Software.jar
https://remotesensing.vito.be/software/uav-pc/documentation/generic/MAPEO_field_software_manual.pdf

2. Make sure JAVA 11 (or higher) is installed (Windows, IOS, Linux), if not: Install Java via https://adoptium.net/

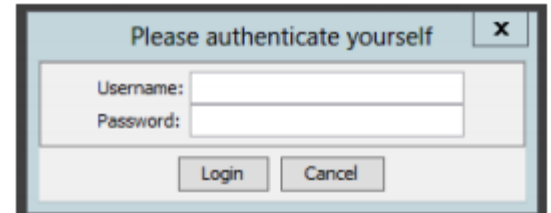3. Open MAPEO-Field-Software.jar application and authenticate yourself.
User credentials (customer-specific) can be requested from your drone coordinator.

First time login requires internet access.
After successful authentication, you are no longer required to login for a period of 60 days. The username is cached on the user account on the pc.
So, before going in the field without internet access, you should have run the jar at least once and logged in with the active user!

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Field Software

2. Start a new project and select the drone flight and camera

On the opening page, you will see a map & table with all the locations which have been flown by you.
Add a "new" mission

Select the drone mission and the camera you are using for the mission. In case the camera is missing, notify support@mapeo.be and continue with the default "Base profile".

Field Software

3. Check the location and the ROI and GCP info

After selecting the location of the drone mission, following information will be automatically loaded: the mission boundaries (purple box) and ground control points (red dots + information displayed)

Field Software

4. Add image data

Select folder containing the drone images
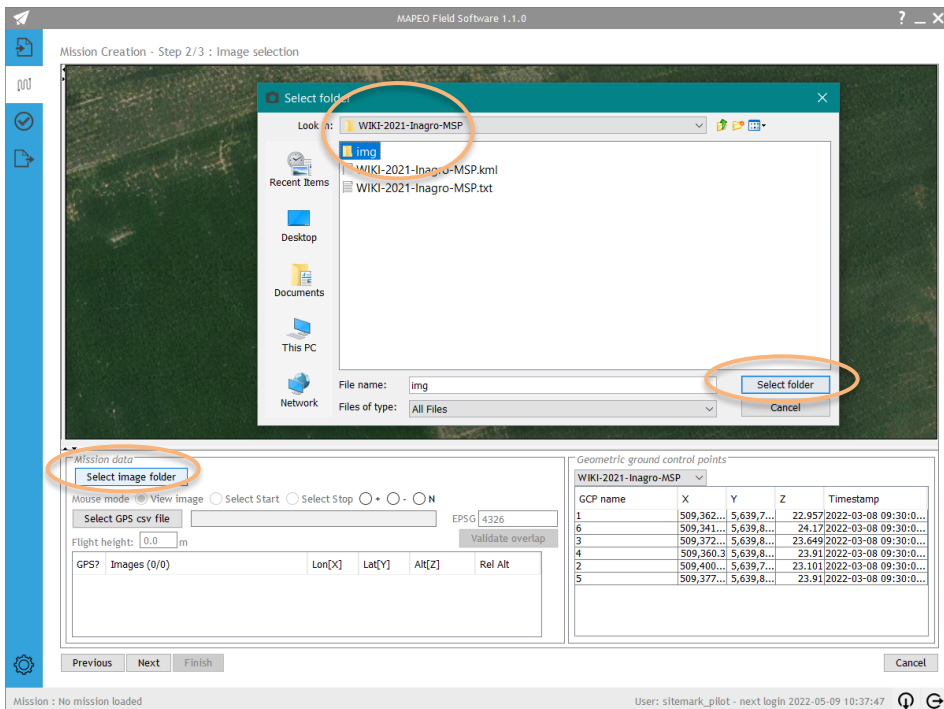
Image locations are read from metadata and displayed on the screen
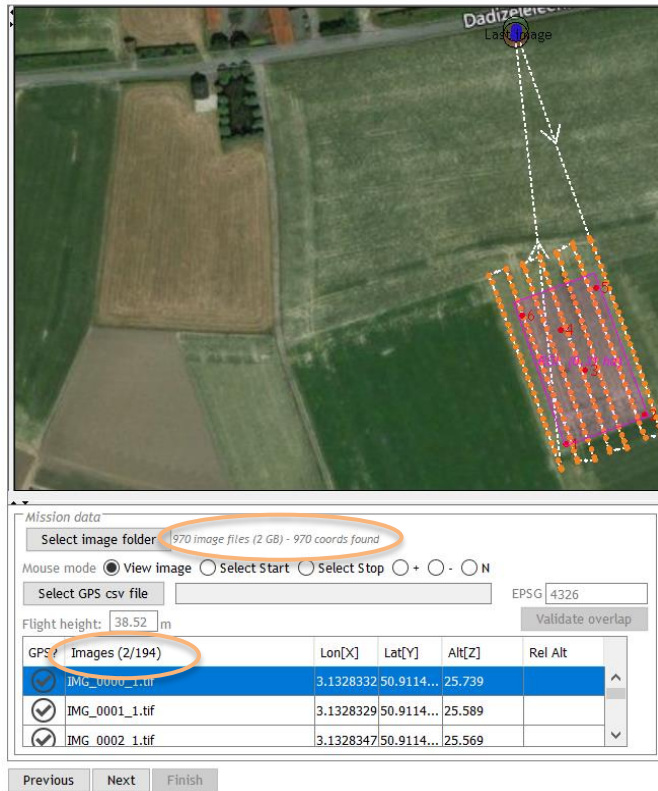
5. Verify image quality

In **"View image"** mode select at least 3 images and verify image quality
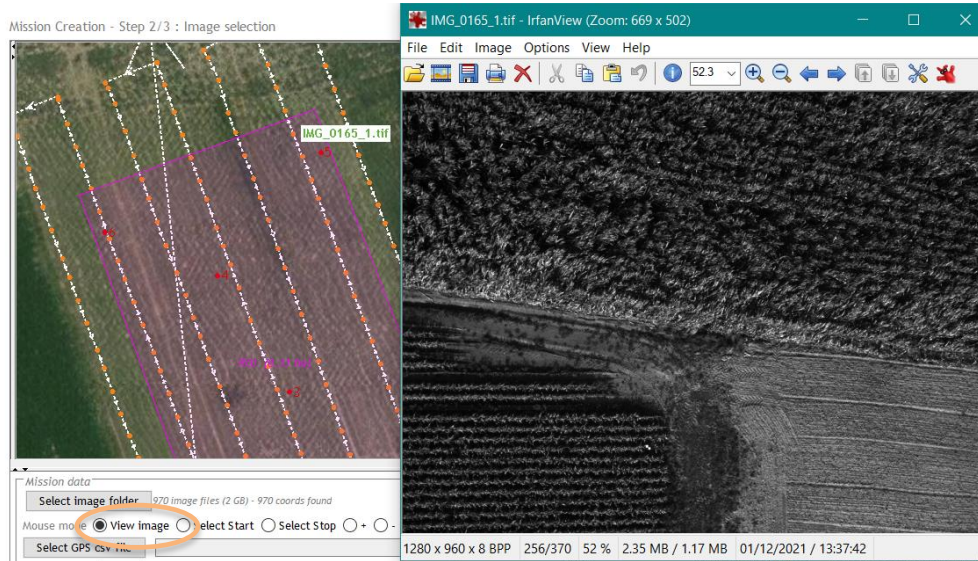
IMPORTANT - Zooming:

Use the mouse SCROLL to zoom in/out in steps
Use SHIFT mouse drag to zoom in to the selected square
Click anywhere on the screen to return to default zoom level for the mission

Field Software

6. Select start and stop position of the mission

Select start position (≠ first image)

Select stop position (≠ last image)
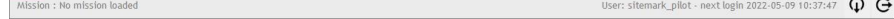
Field Software

Mission Creation – Step 2/3 : Image selection

- All images which are part of a flight line will be selected for upload. These will have a **black** color.

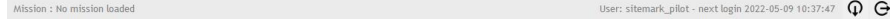- Images in turns or which are taken from-to the first/last way point are **orange** and will not be uploaded

- For multispectral flights, calibration images are shown as **blue** dots and are always selected for upload

- Check whether the flight lines are drawn parallel and whether their numbering is consistent

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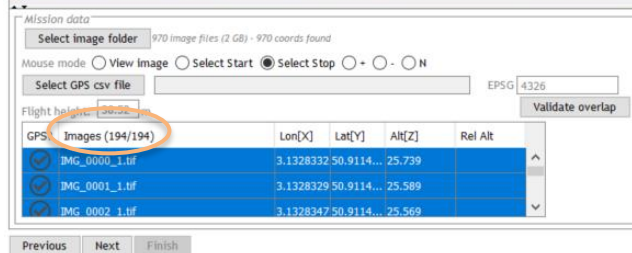
Field Software

8. Verify image overlap

Perfect

Visual check on image overlap

1. Fill in correct flying height
2. Press **"Validate overlap"**
3. Number of images per location in the field should be >5 for the entire ROI
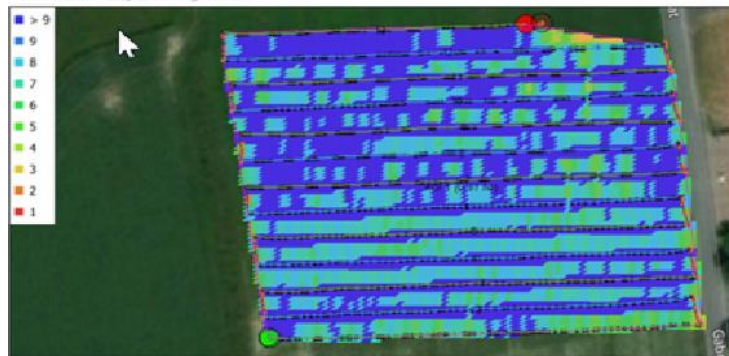
Not acceptable

Mission Creation - Step 2/3 : Image selection

■	> 9
■	9
■	8
■	7
■	6
■	5
■	4
■	3
■	2
■	1

IMG_0147_1.tif
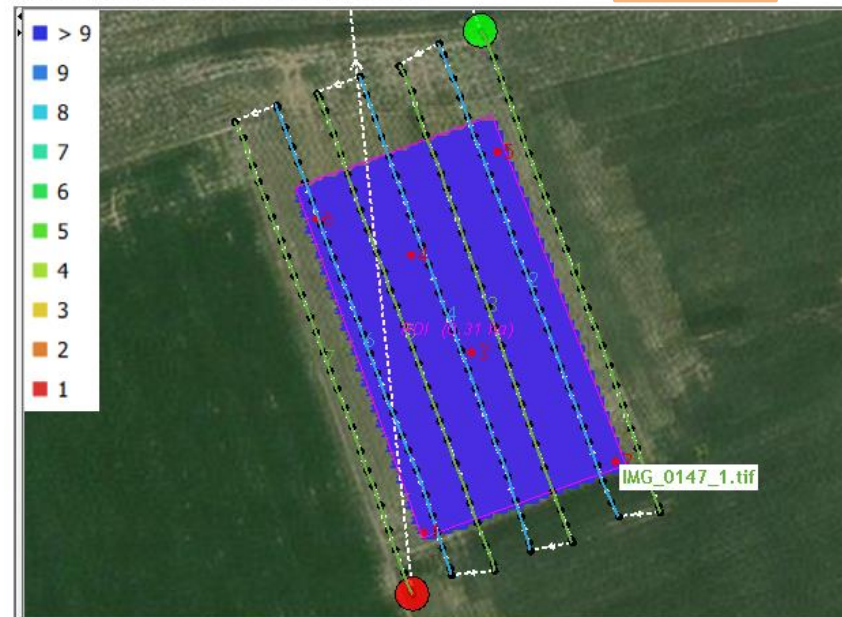
Mission data

Select image folder   970 image files (2 GB) - 970 coords found

Mouse mode ● View image ○ Select Start ○ Select Stop ○ + ○ - ○ N

Select GPS csv file   EPSG 4326

Flight height: 38.52 m   Remove overlap   Validate overlap

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Field Software

- Verify mission name and application type
- Verify mission date,
  set to the correct value if needed
- Press **"Finish"**

MAPEO Field Software 1.1.0

Mission Creation - Step 3/3 : Flight description

Mission
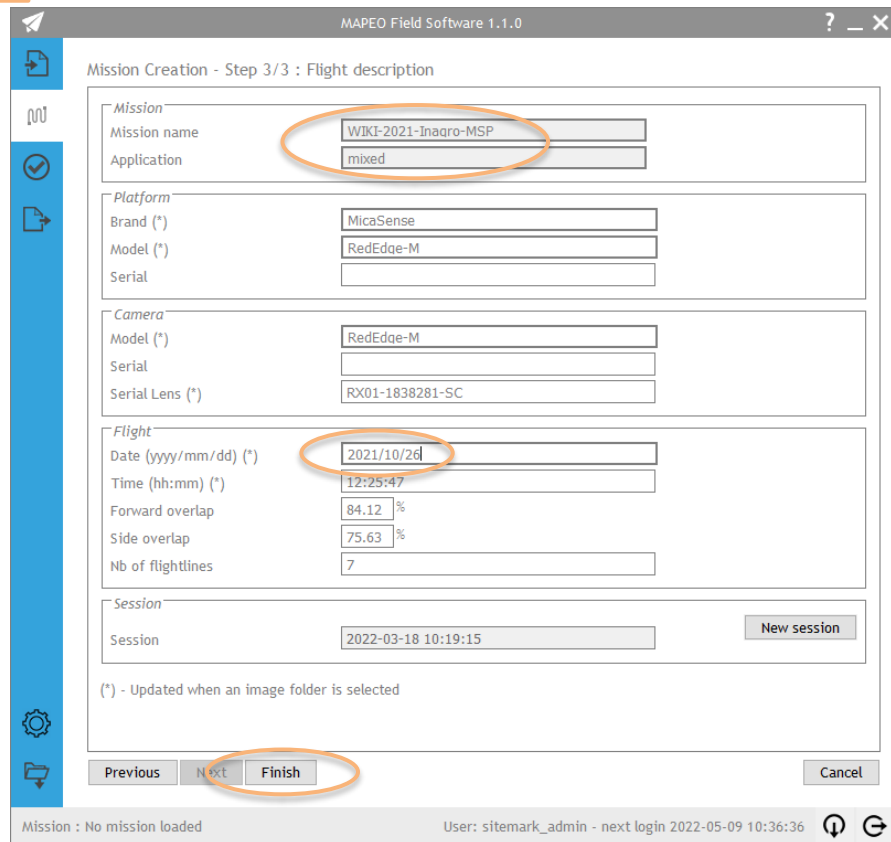Mission name   WIKI-2021-Inagro-MSP
Application   mixed

Platform
Brand (*)   MicaSense
Model (*)   RedEdge-M
Serial

Camera
Model (*)   RedEdge-M
Serial
Serial Lens (*)   RX01-1838281-SC

Flight
Date (yyyy/mm/dd) (*) 2021/10/26
Time (hh:mm) (*)   12:25:47
Forward overlap   84.12 %
Side overlap   75.63 %
Nb of flightlines   7

Session
Session   2022-03-18 10:19:15   New session

(*) - Updated when an image folder is selected

Previous   Next   Finish   Cancel

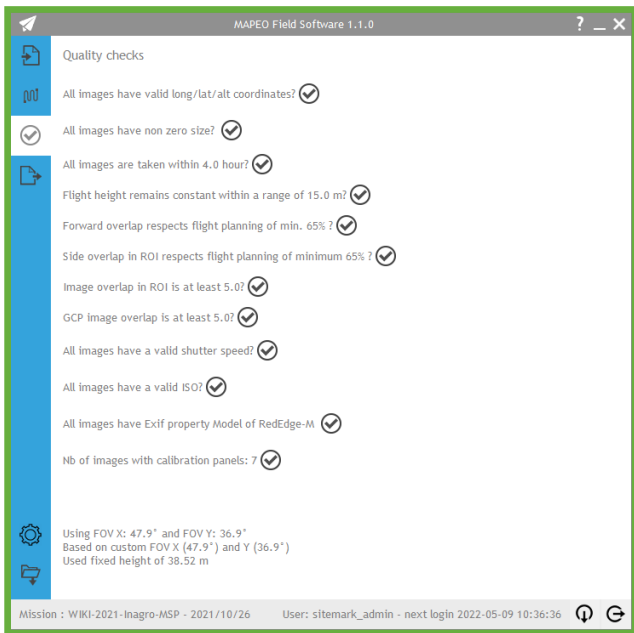Mission : No mission loaded   User: sitemark_admin - next login 2022-05-09 10:36:36

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10. Verify drone mission quality

Verify the quality of the mission data, see manual for details.
In case a quality parameter is not met, refly the mission.
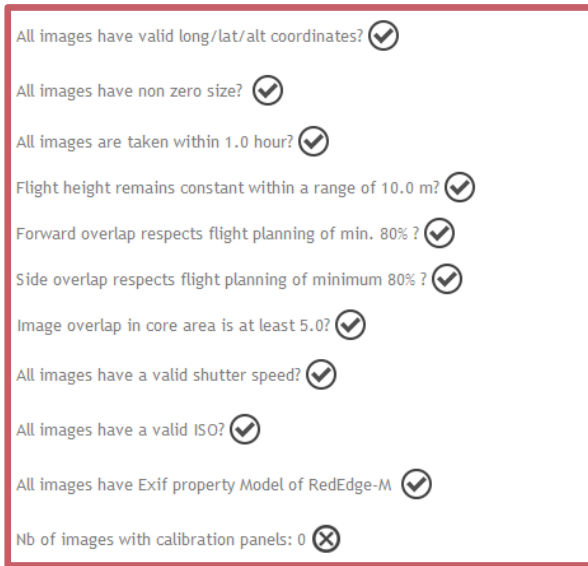In case no reflight is possible, contact the drone coordinator.

Perfect

Quality checks

- All images have valid long/lat/alt coordinates? ✓
- All images have non zero size? ✓
- All images are taken within 4.0 hour? ✓
- Flight height remains constant within a range of 15.0 m? ✓
- Forward overlap respects flight planning of min. 65% ? ✓
- Side overlap in ROI respects flight planning of minimum 65% ? ✓
- Image overlap in ROI is at least 5.0? ✓
- GCP image overlap is at least 5.0? ✓
- All images have a valid shutter speed? ✓
- All images have a valid ISO? ✓
- All images have Exif property Model of RedEdge-M ✓
- Nb of images with calibration panels: 7 ✓

Using FOV X: 47.9° and FOV Y: 36.9°
Based on custom FOV X (47.9°) and Y (36.9°)
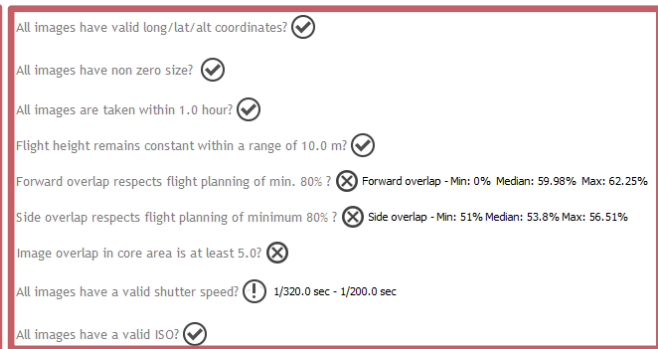Used fixed height of 38.52 m

Mission : WIKI-2021-Inagro-MSP - 2021/10/26   User: sitemark_admin - next login 2022-05-09 10:36:36

Not accepted

- All images have valid long/lat/alt coordinates? ✓
- All images have non zero size? ✓
- All images are taken within 1.0 hour? ✓
- Flight height remains constant within a range of 10.0 m? ✓
- Forward overlap respects flight planning of min. 80% ? ✓
- Side overlap respects flight planning of minimum 80% ? ✓
- Image overlap in core area is at least 5.0? ✓
- All images have a valid shutter speed? ✓
- All images have a valid ISO? ✓
- All images have Exif property Model of RedEdge-M ✓
- Nb of images with calibration panels: 0 ✗

- All images have valid long/lat/alt coordinates? ✓
- All images have non zero size? ✓
- All images are taken within 1.0 hour? ✓
- Flight height remains constant within a range of 10.0 m? ✓
- Forward overlap respects flight planning of min. 80% ? ✗ Forward overlap - Min: 0% Median: 59.98% Max: 62.25%
- Side overlap respects flight planning of minimum 80% ? ✗ Side overlap - Min: 51% Median: 53.8% Max: 56.51%
- Image overlap in core area is at least 5.0? ✗
- All images have a valid shutter speed? ! 1/320.0 sec - 1/200.0 sec
- All images have a valid ISO? ✓

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Field Software

- Select the **"Mission upload"** tab and press the **"Start"** button.
- It can take some seconds before the actual upload is starting, the progress can be followed on the screen
- When upload is successful, this is indicated in the mission overview table

⚠️ **Leave the application open and do not shut down the pc before upload is finished!**