

# Guidelines for planning photogrammetric flight over power-lines.

1. The flight route should be parallel to the power line.
2. The flight height selected so that the resolution of the photos is about 0.8 - 1.5 cm/pixel (e.g. for Sony RX1RII it will be about 60m above the top of the pole).
3. Flight height adjusted to the terrain profile so as to maintain as constant height as possible above the poles.
4. Coverage of photos minimum 60%, preferably 75%
5. The route should include at least 2 rows on both sides of the power line. It is best to make a flight into 4 rows (two on the left, two on the right of the power line) to get the best mapping.
6. All photos should contain all power line cables.
7. Pictures should be taken in such a position that wires do not overlap in the picture.
8. Pictures should be sharp and contrasting so that the cable routing can be identified.
9. Results can only be achieved if capture is done using RTK capabilities.

CORRECT  
PHOTOS

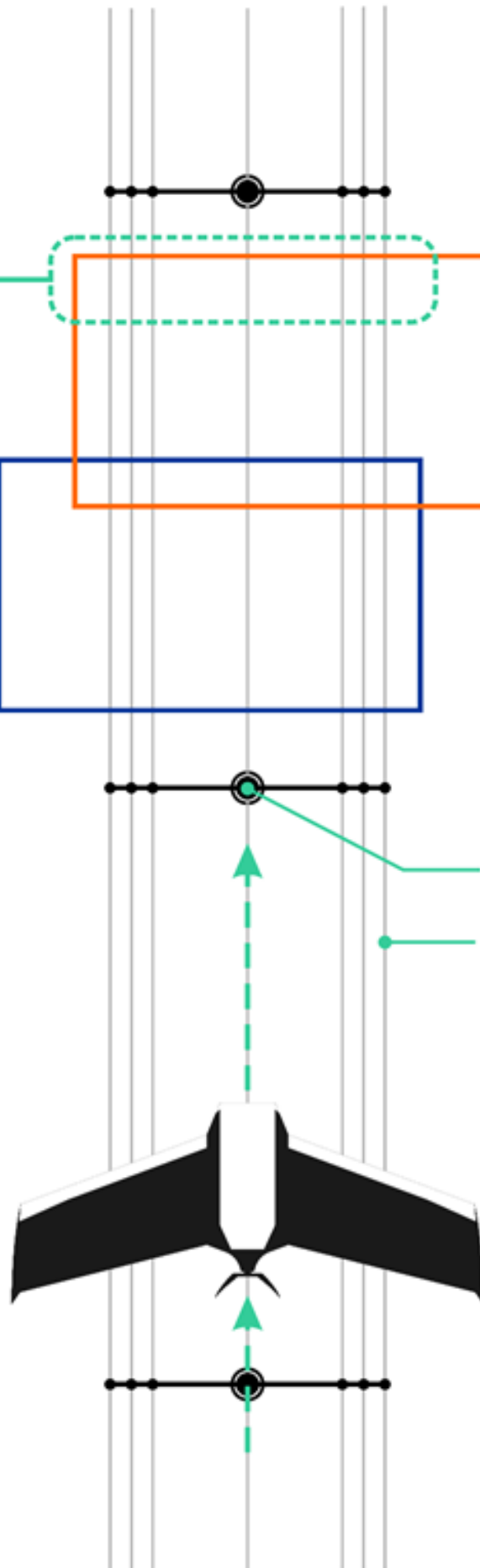
any photo  
in any row  
contains ALL  
power lines

RIGHT  
PHOTOS

LEFT  
PHOTOS

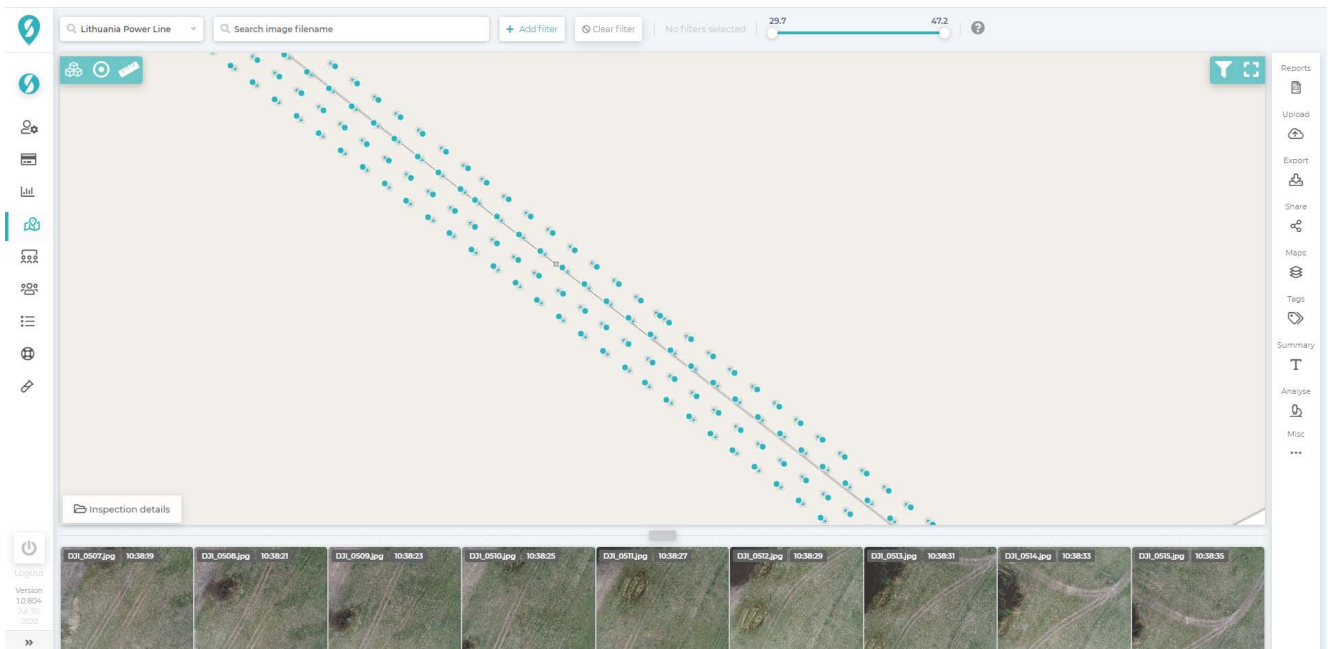
pole

power line



**Scopito ApS**

Agro Food Park 13,  
8200 Aarhus N  
Denmark



## Correct flight-path in Scopito



## Incorrect flight-path in Scopito

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# Good image examples.

## Full image

*Indonesia DEMO\_PLN.*

Camera Sony a6000, flight altitude 100 m above ground and 70 m above tower. Images are sharp and light, the wires are very well distinguished from the background.

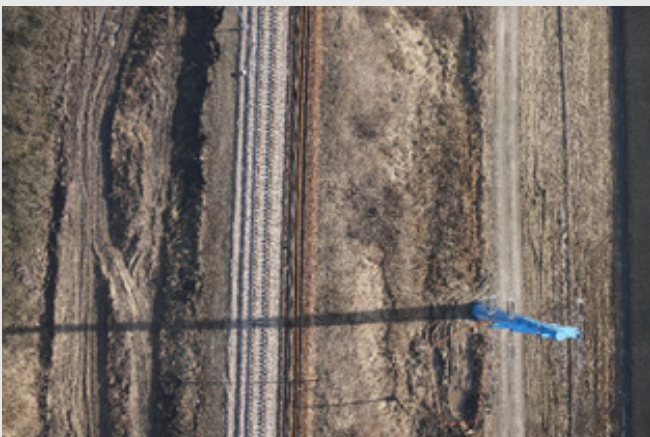


## Zoom



*Poland.*

Camera Sony RX1R II, flight altitude 80 m above ground and 50 m above tower. Images are very sharp and thanks to that there was no problem to detect wires despite that they are dark.



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### *Poland.*

Camera Sony RX1R II, flight altitude 140 m above ground and 90 m above tower. Images are sharp, wires are not overlapping.



### *Columbia.*

DJI Phantom 4Pro flight altitude 60 m above ground and 50 m above pole.



### *Chile.*

DJI Phantom 4Pro flight altitude 100 m above ground and 60 m above tower.



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# Bad image examples.

*Vietnam.* Camera Sony a6000 flight altitude 110 m above ground and 80 m above tower. Images are slightly blurred for this reason the wires are not distinguished from the background.



*Indonesia Udara.* Camera Sony a6000, flight altitude 150 m above ground and 110 m above tower. Images are slightly blurred, wires are overlapping themselves and dark.



*Indonesia.* Camera Sony a6000, flight altitude 220 m above ground and 180 m above tower. Overall image quality is good but due to high flight altitude wires are overlapping and are slightly blurred.



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