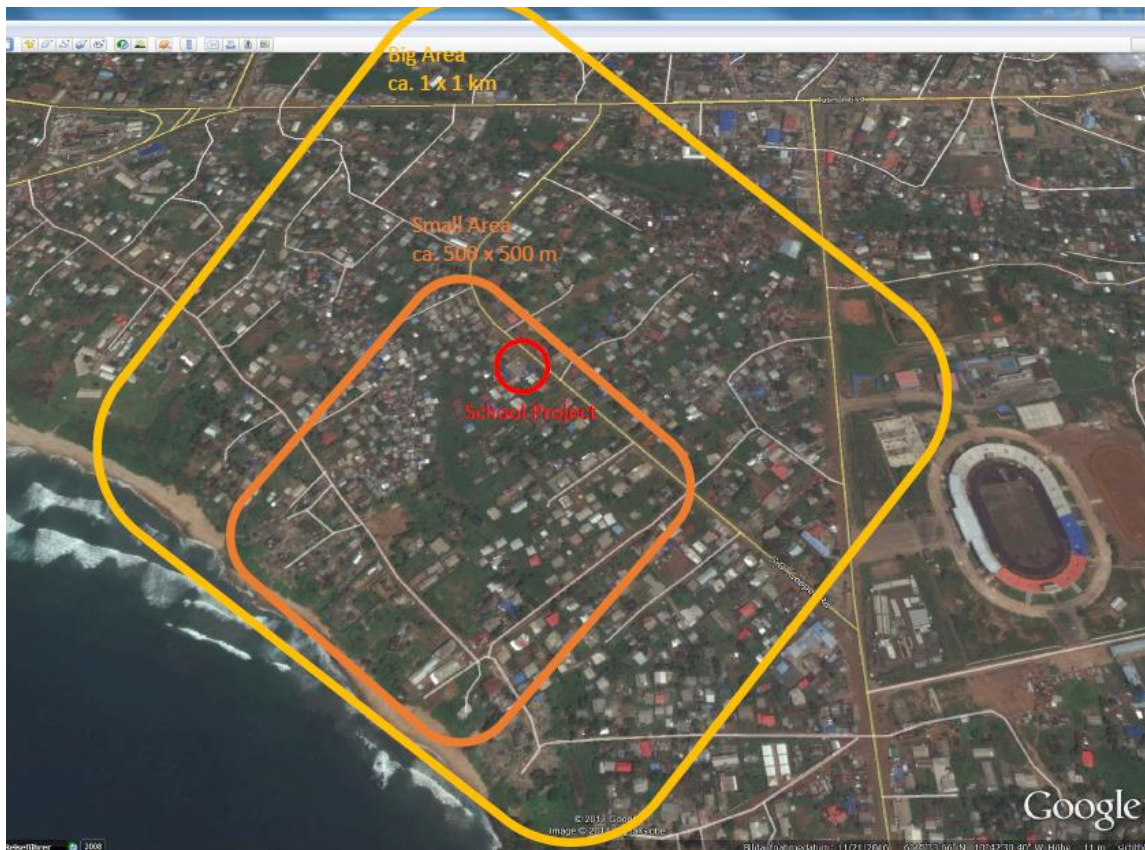


1 Objectives

Cartography of the area around ICA school with

- contour lines, accuracy of about 5 centimeters – digital terrain model
- Buildings, streets and paths

In a small area of 500 x 500 meters or big area of 1 x 1 km:

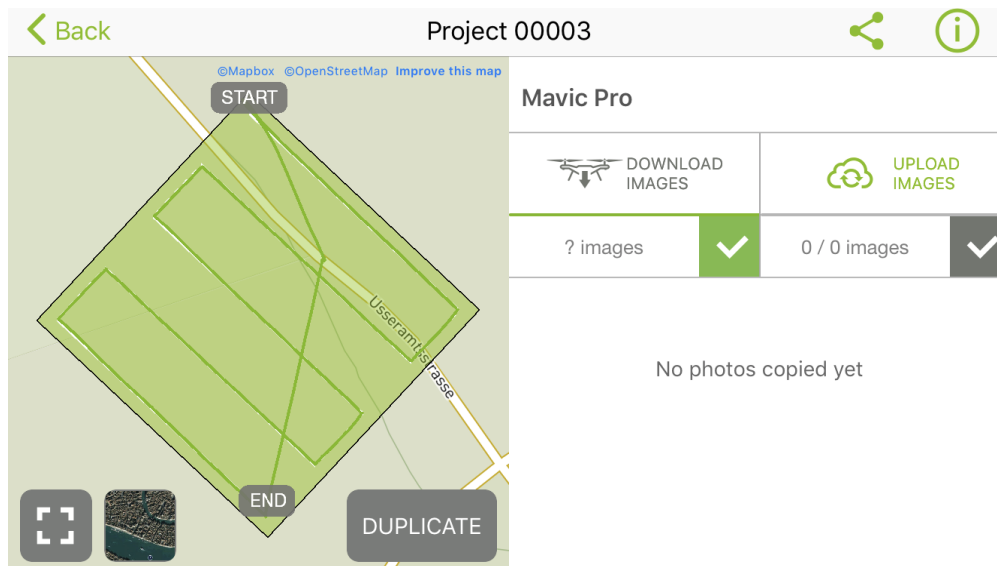


2 Quadrocopter flights

- Quadrocopter dji mavic pro, with a 4K camera (12 MP)



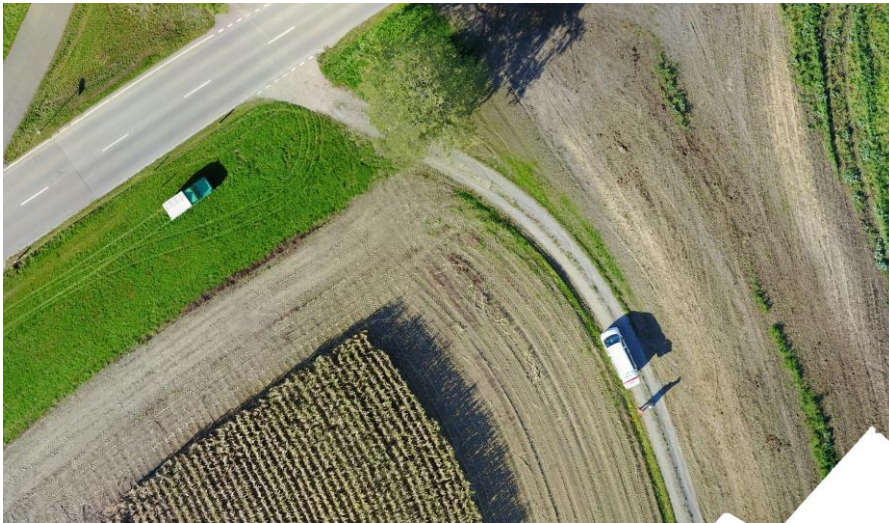
- With a flight height of 55 meters the accuracy is 1.8 cm/pixel. That gives about the same accuracy of the height
- Maximum flight time is about 25 minutes with one accu
- So it's possible to fly two times an area of 250 x 250 meters, each in 10 minutes; with the second accu and another two flight sessions covers the complete small area of 500 x 500 meters.
- Flights are planned and automatically executed by iPhone app – Pix4D:



- For an accurate georeference at least 5 reference points are required in the flight area (4 points in the corner of the area and one in the center); for these reference points the coordinates and height must be known or surveyed for example by gps.

3 Image processing and photogrammetry

- Images will be send to my office an stitched together by operator in the soft-ware named
- AgiSoft PhotScan Professional
- The stitched image of the area will be «cleaned up» (deleting trees, obstacles etc.)
- Georeferencing the image
- The result is an accurate orthophoto



4 Digital terrain model

- Computing contour lines from the orthophoto with the software
- 3D Reshaper
- The result ist a map with contour lines, equidistance for example 20 centime-ters

