



# 3 days

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# PHOTOGRAMMETRY TRAINING - PIX4D SOFTWARE TRAINING PRESENTATION

### OBJECTIVES

At the end of the training, the trainee has acquired the necessary knowledge to carry out photogrammetric post-processing operations for the benefit of measurement professionals (surveying firms) with the Pix4D software.

### PUBLIC & PREREQUISITES

Students, military, surveyors, cartographer, geomatics, UAV pilot, architect, CAD drafter. Prerequisites: basic fluency in computer science (windows environment, know how to install software) and motivation.

### DURATION

Three days of 8.5 hours, totaling a hourly volume of 25.5 hours.

### PEDAGOGICS MEANS

The training is provided by a GIS expert geomatician and a photogrammetrist-surveyor. Each session is organized for a maximum size defined by the available workstations (4) and specially configured for image processing in the field of photogrammetry.

Theoretical classes take place in the classroom, on screen / video projector and practical exercises are performed on individual dual screen computers. All the material necessary for the training action is made available to trainees (computers, digital cameras, image datasets from professional services, documentation, calculation grids).

### MONITORING & EVALUATION

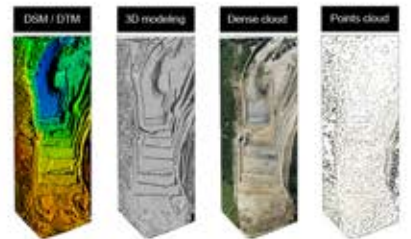
A final restitution exercise and a theoretical test verify the achievements of the training, a debriefing is organized and a training certificate is given at the end of the day at the last hour of the 3rd day.

[contact@dronesimaging.com](mailto:contact@dronesimaging.com)

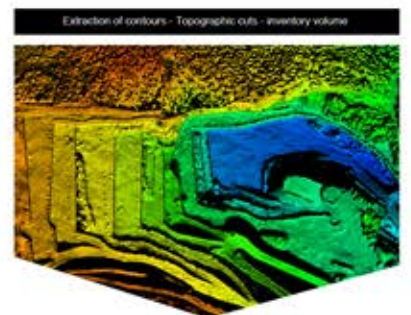
### AERIAL PHOTOS MULTI-SOURCE



### PRODUCTION OF DIGITAL DATA

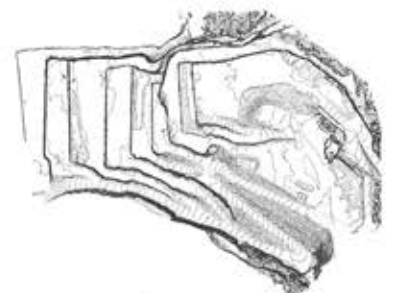


### OPERATION OF DIGITAL DATA



### ANALYSIS & FILE FORMATS

Delivery specified formats - scan report - Decision Support



# TRAINING PROGRAM IN PHOTOGRAMMETRY

## Presentation of the 3 days training - Pix4D software

contact@dronesimaging.com

### DAY 1 - PHOTOGRAMMETRY

#### **COURSE #1 : Introduction to photogrammetry. 01h00**

- Principle of photogrammetry / overlapping.
- The different digital exports and file formats.
- Comparison of leading photogrammetry software.

#### **COURSE #2 : Business applications and markets. 01h00**

- Customers and their needs.
- Examples of services and deliverables documents.
- Fields of application, pitfalls to avoid.

#### **COURSE #3 : The Pix4D workflow. 01h00**

- Exifs & import feature.
- Pix4D & settings.
- Exports.

#### **TUTO #1 : Getting started with Pix4D. 02h00**

- Tuto / modeling a main road.
- Tuto / modeling from video & film photography.
- The exports / points cloud-3d-dsm-ortho-pdf.

#### **COURSE #4 : Productions & Software compatibility. 01h00**

- Meshlab / Sketchfab / Acrobat Reader.
- Google earth / Global Mapper.
- DWG trueview / Cloud Compare.

#### **TUTO #2 : Getting started with interoperable softwares. 02h30**

- Acrobat reader, 3D visualization and sharing with Sketchfab.
- Length & area measurement.
- Interoperability with Google Earth.
- Debriefing day 01.

### DAY 2 - DIGITAL CARTOGRAPHY 2D & 3D

#### **TUTO #3 : Delivery an orthophoto to a customer. 01h00**

- Tuto / roof inspection.
- Identify and correct a mesh problem.
- Tuto / mapping a disaster area in Philippines.
- Identify and correct a texturing problem.

#### **COURSE #5 : Setting the camera. 01h00**

- Operation of photogrammetry softwares.
- Camera settings applied to photogrammetry + time lapse.
- Encountered problems.

#### **TUTO #4 : Multispectral orthophoto. 01h00**

- Tuto / mapping an agricultural plot (cereals).
- Exports & NDVI calculation (vegetation vigor analysis).

#### **COURSE #6 : Georeferencing. 01h00**

- Exifs / GCPs & positioning strategy of the surveyor's targets.
- GPS / GPS RTK & accuracy.
- The quality report & the special cases.

#### **TUTO #5 : Georeferencing. 02h00**

- Georeferencing from Google Earth.
- Georeferencing from GNSS RTK.
- Georeferencing a vertical wall.

#### **TUTO #6 Multi temporal comparison analysis. 02h30**

- 3D modeling.
- Multi-temporal exports.
- Managing rasters / change detection (cracks).
- Debriefing day 02.

### DAY 3 - PUT IN OPERATIONAL CONDITIONING WITH PROFESSIONAL USES CASES: topographic surveys

#### **TUTO #7 : Volume calculation. 01h00**

- The workflow.
- Scaling.
- Tuto / volume measurements and error percentages.

#### **TUTO #8 : Topographic survey of a quarry. 02h00**

- Workflow.
- Georeferencing.
- Quality control.
- Generating topographical profiles.
- Generating contour lines.
- Flood simulation.

#### **TUTO #9 : Topographic survey & spatial accuracy. 02h00**

- Workflow & GNSS RTK georeferencing.
- Noise filtering and cleaning.
- Residual errors.

#### **TUTO #10 : Topographic survey: final test. 02h00**

- Workflow & GNSS RTK georeferencing.
- Noise filtering and cleaning.
- DTM / DEM Classification.
- Residual errors.

#### **COURSE #7 : Debriefing & MCQ. 01h30**

- Test, debriefing & training certificates.