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7-9 April 2020 /// Amsterdam

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Feel4U | TerrEye

Tactical decision-support solutions for land management

(for a better and cost-efficiency & environmental friendly land stewardship)

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GJ → Feel4U → TerrEye

Brussels based **consulting** company operating on international agri-environmental projects;

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Providing **technical** assistance in managing natural resources;

-

Projecting and **Implementing** initiatives; (Based on intelligence and experience)

-

Prescribing and **planning** (land-) management activities according to land potential

Technology-based **consulting** company operating on int. agri-environmental projects;

-

Providing **technological** assistance in managing natural resources;

-

Projecting and Implementing initiatives; (Based on **high-end technology**)

-

Prescribing and **planning** (land-) management activities according to land potential

-

Surveing, mapping & monitoring

How did I start to use high-end technology? Feel4u TerrEye

How do you assess remote areas?

The answer is **RPAS**
(Remotly Piloted Aircraft System)

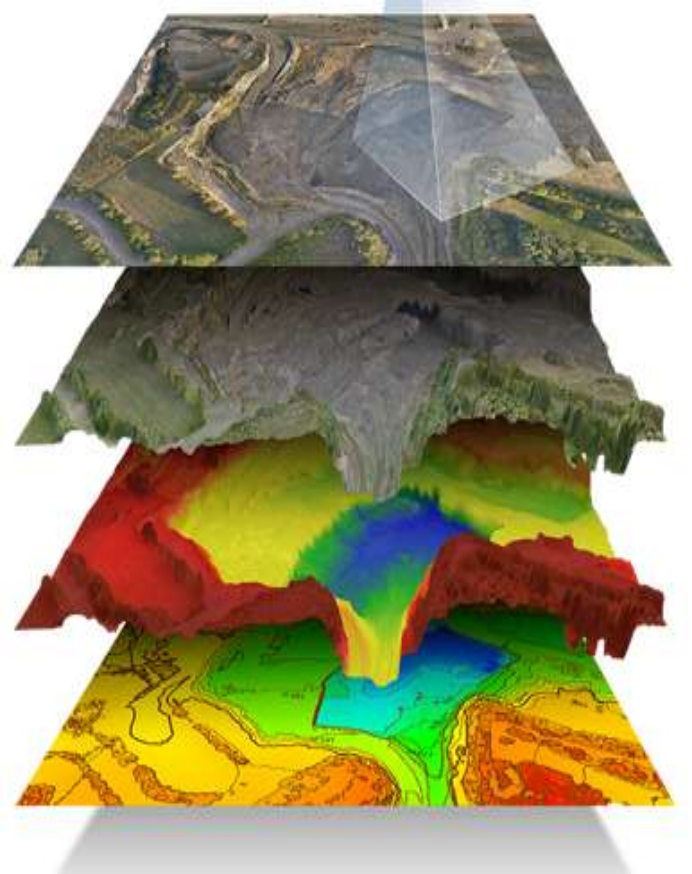
Trimble Tablet Rugged PC

Trimble UX5 Aerial Imaging Rover

The Hardware Technology

Type	fixed wing
Weight	2,5 kg (5.5 lb)
Wingspan	100 cm (39.4 in)
Wing area	34 dm²
Dimensions	100 x 65 x 10 cm (39.4 x 26 x 4.1 in)
Material	EPP foam; carbon frame structure; composite elements
Propulsion	electric pusher propeller; brushless 700 W motor
Battery	14.8 V, 6000 mAh
Camera	24 MP mirrorless APSC

Drones to adresse the needs of rural entrepreneurs and agribusinesses.



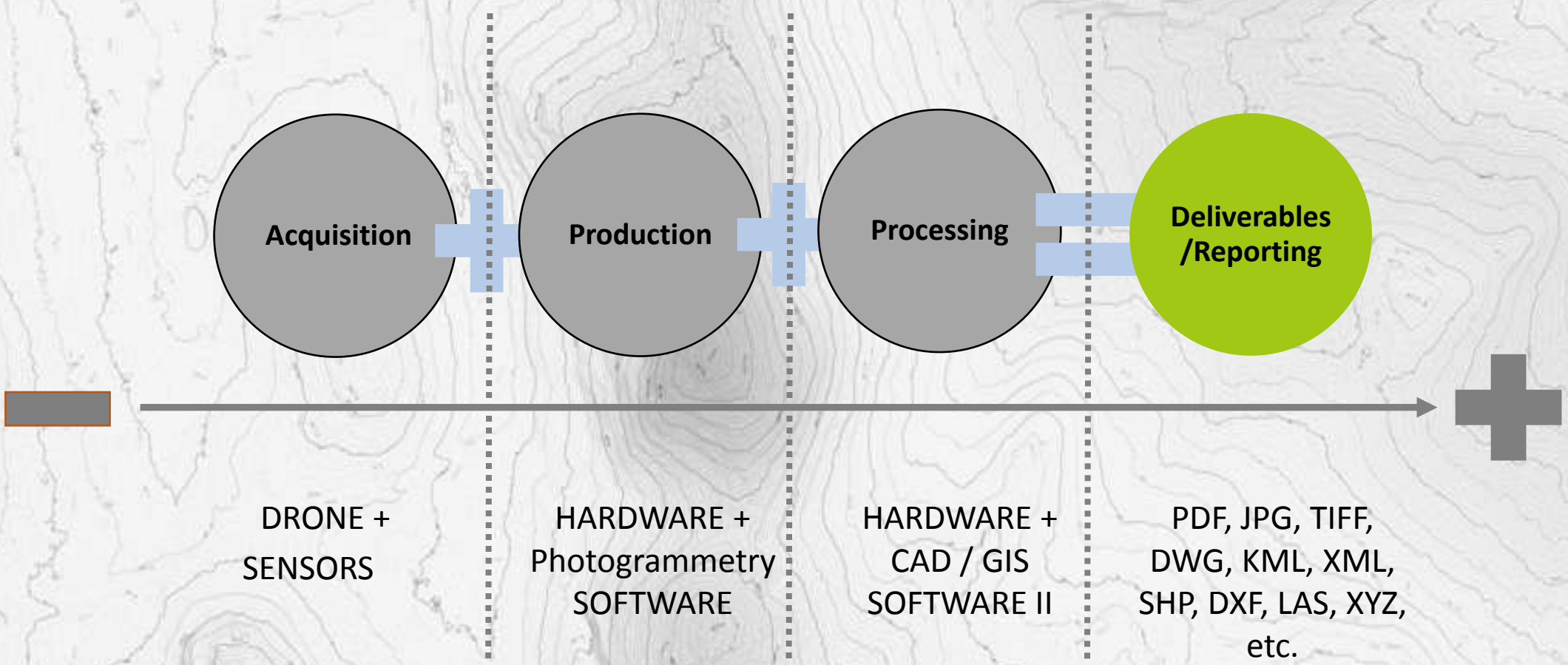
- **Aerial imagery is giving a fresh data relevant to ground truth.**
- **Technology allows agribusinesses to have rapid, reactive, flexible, precise and customised inventory projects**

Compared to sattelite imagery or airplanes, drones show much advantages:

- A **centimeter spatial resolution** which enables a more precise analysis of land;
- A **reduced dependence to weather** by flying under cloud cover;
- A greater **flexibility, cost-efficiency,** and **quick take off;**

The value of geospatial technology lies in the accessibility of relevant information
The integrated sensors will diagnose important elements, features, weakenesses and defficiencies; They will capture the information that matters.

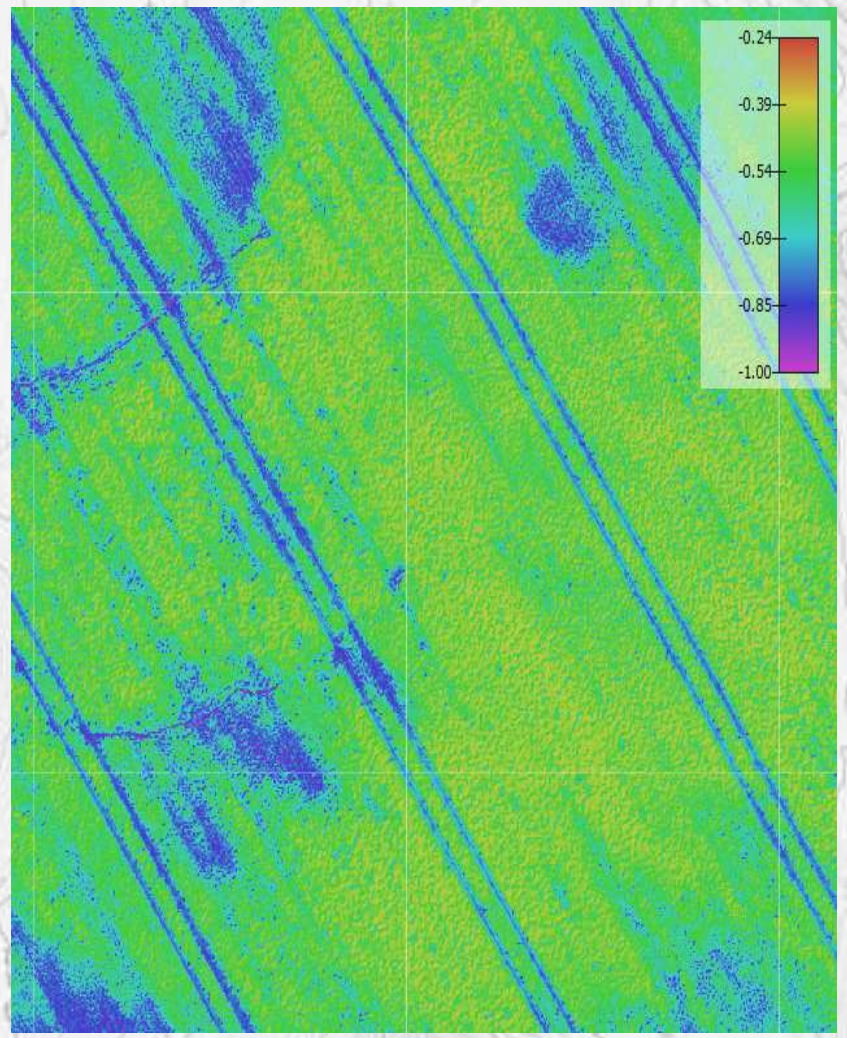
From Data Acquisition to Deliverables Operational Workflow



AGRO-DELIVERABLES (Agriculture)

CIR- Color Infra-red Camera and NDVI ortho-mosaicking to evaluate plant health

NDVI=(NIR-VIS)/(NIR+VIS)

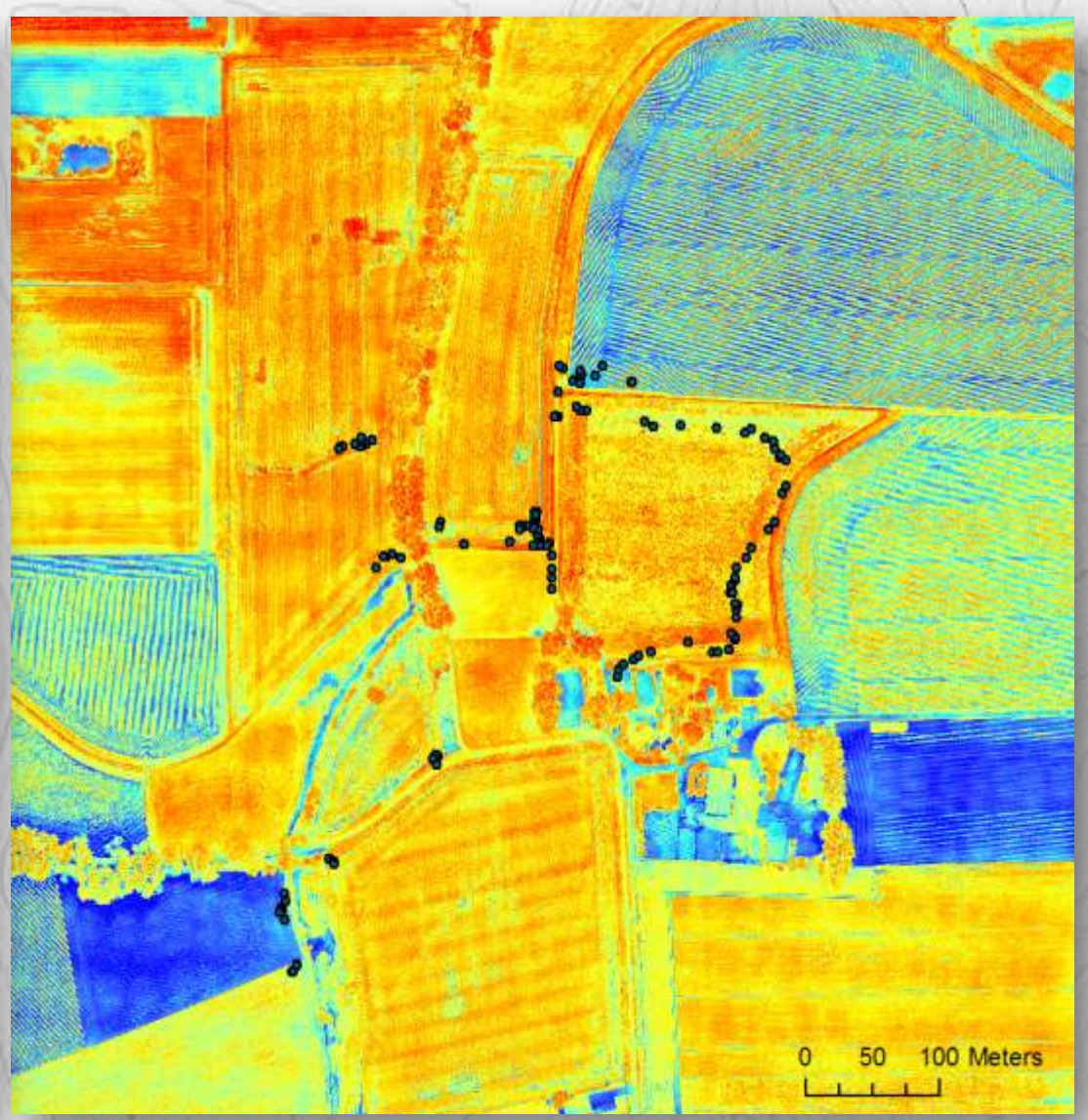


Understanding the fact that the agriculture resources are amongst the most important, renewable, dynamic natural resources and a comprehensive, accurate and timely availability of these data is very much necessary for the implementation of the effective management decisions. When the results are coupled with targeted soil testing, exceptionally accurate prescriptions can be made.

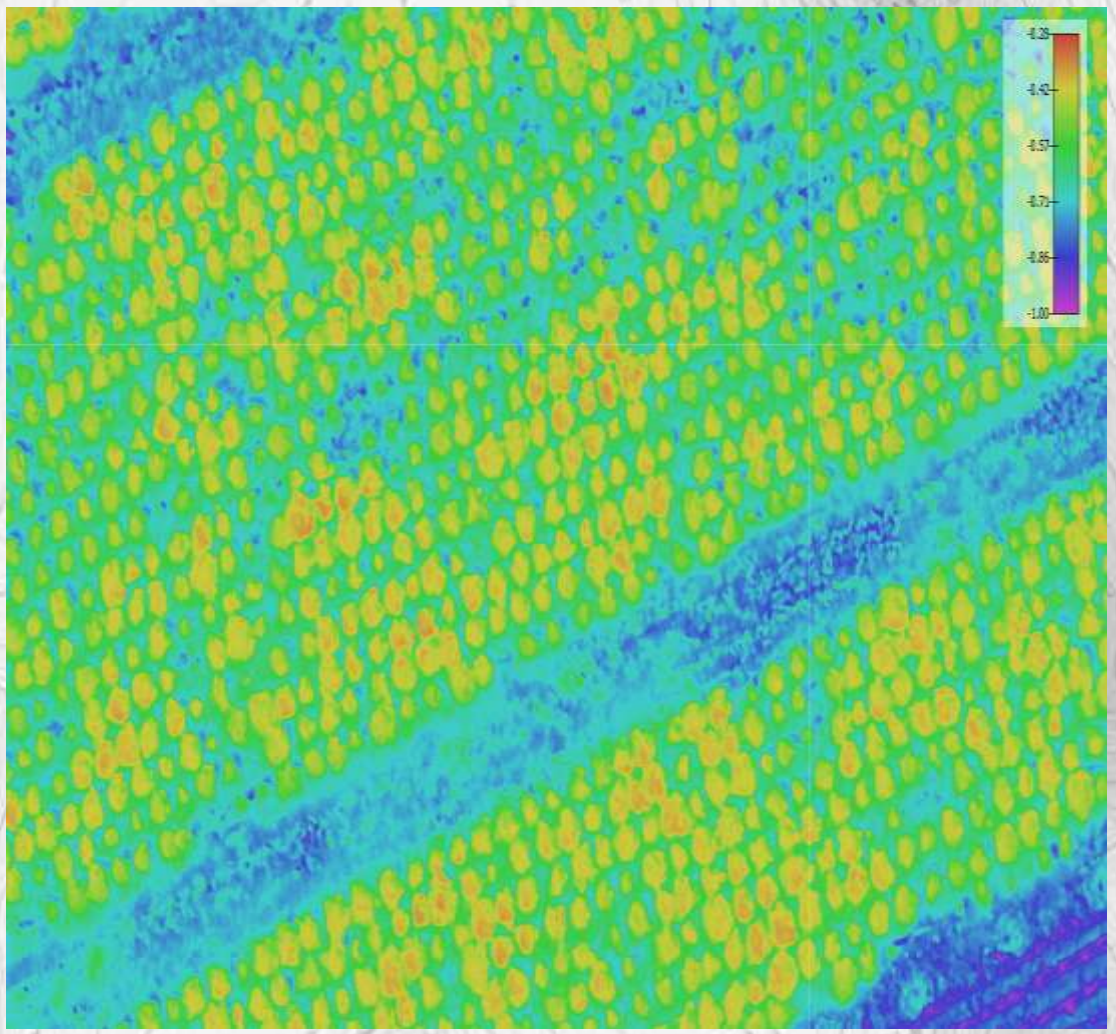
- **Aerial orthophoto map** of the entire domain rectified for acceracy;
- **Elevation Data**/Topography (DTM/DSM)
- **Water management** & Erosion analysis.
- **Quantification of damage** (Flood, game, wind, etc.)
- Diagnosis **vegetation health** allowing managment of crop health;
- Identification **areas of crop stress**, pests, disease or weeds;
- **Soil property** & moisture analysis;
- **Plant counting;**

Pilot Project in Belgium

- 256 images in RGNIR/CIR
- 100mt flight height
- 80% overlap
- 3 cm GSD
- 0,75 km²



SYLVO - DELIVERABLES (Forestry)



By means of necessary sensors mounted underneath the UAV, overlapping images are collected over the area of interest. These images can then be used to produce 3D data used to predict forest biophysical characteristics (e.g. timber volume, basal area, stem number, and mean height).

- **Aerial orthophoto map** of the entire domain rectified for accuracy;
- **Quantification of damage** (Flood, game, wind, natural disater, etc.)
- **Diagnosis vegetation health** allowing managment of plant health;
- **Identification areas of plant stress**, pests, disease or weeds;
- **Soil property** & moisture analysis;
- **Plant counting, stockpile/volume calculations**,
- **Water management** & Erosion analysis.
- Elevation Data**/Topography** (DTM/DSM)

Palm Oil Plantation, Indonesia

433 Images

100m Flight Height

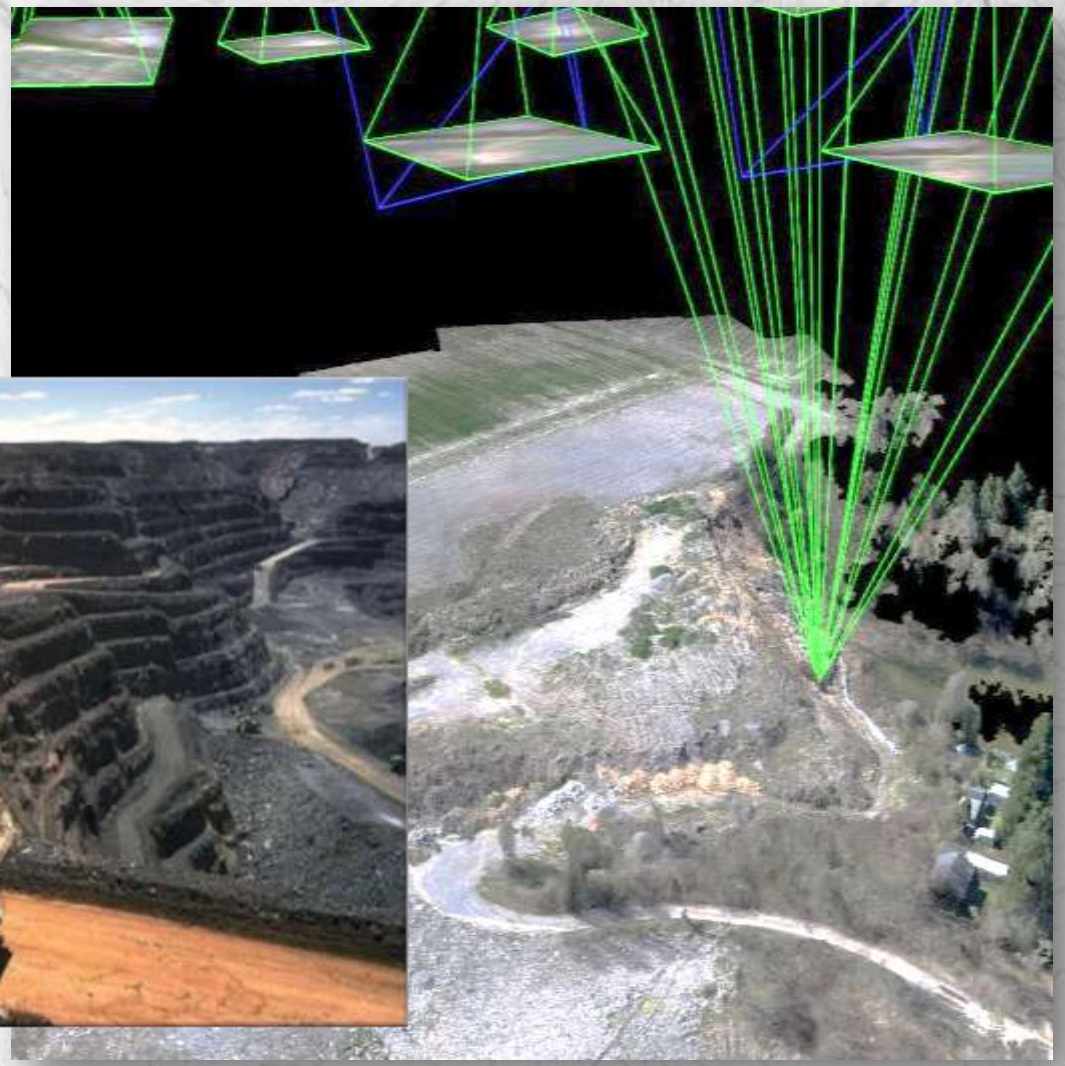
3cm GSD

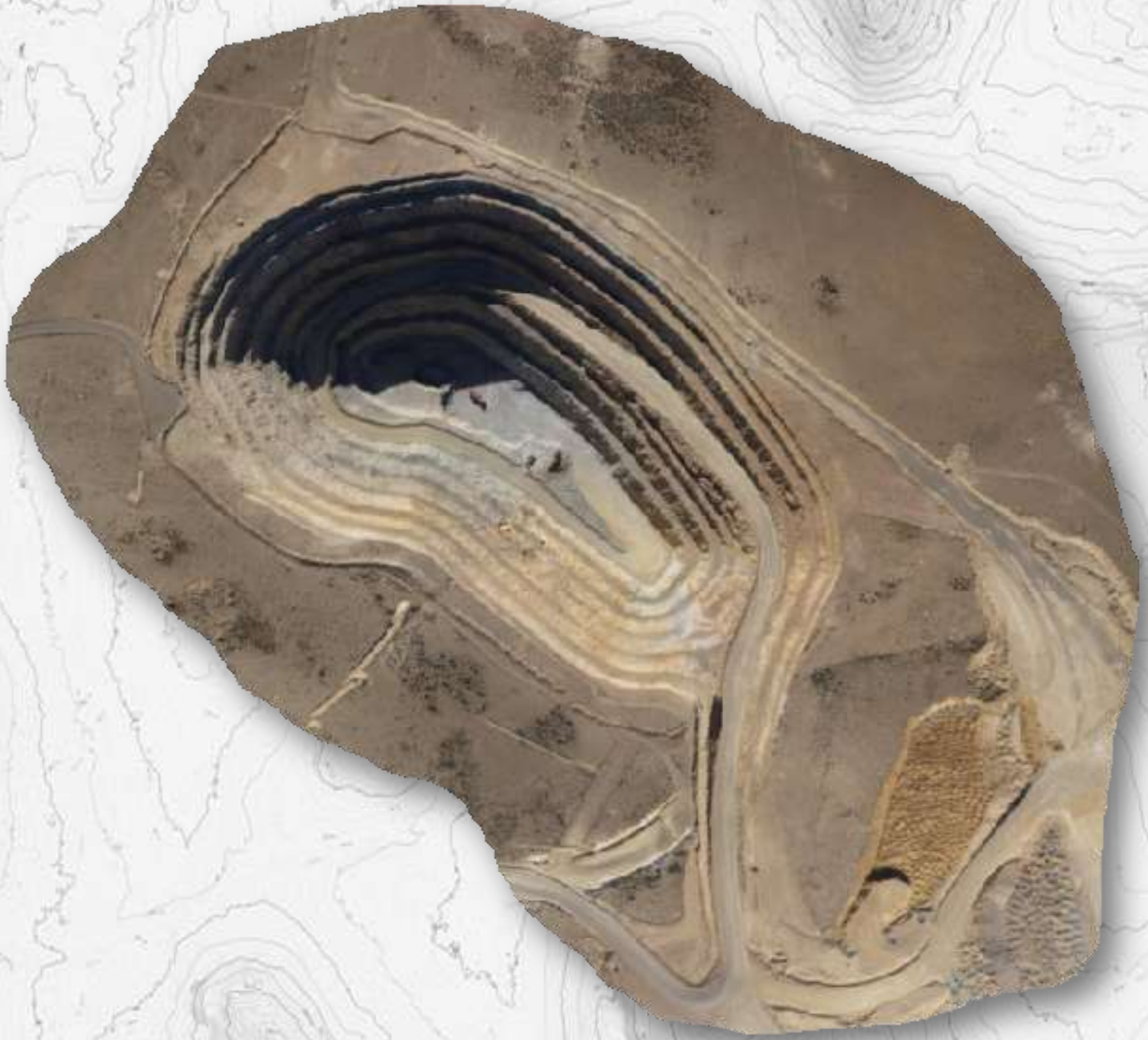
0,15 km^2

TOPO-DELIVERABLES

RGB-Color Camera for topographic mapping and volumetric surveys

- Georeferenced Aerial Orthorectified Map
- Topographical Maps (DTM/DSM)
- Contour Maps & Profile
- Stockpile/Volume calculations & Hight Pile Monitoring
- Dense Point Cloud & 3D Modelling
- Visual Site & Facilities Inspection
- Surface Calculations and Analysis





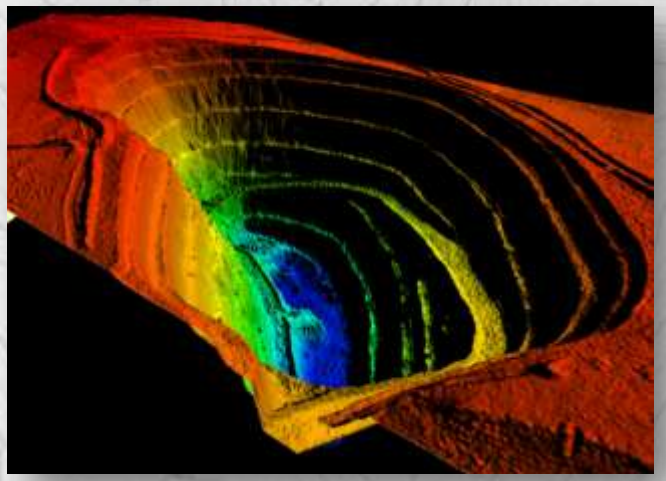
Pit Mine, Argentina

362 Images

200 m Flight Height

6.4 cm GSD

500 x 900 m



Thank you for your attention!

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