

An aerial photograph of a mining operation. A yellow excavator is positioned in the center, surrounded by a network of conveyor belts. The ground is dark and rocky, with some areas of reddish-brown soil. The image is overlaid with a white text box on the left and a teal banner at the bottom.

sim<sup>a</sup>active

# Plan mineral exploration with higher accuracies

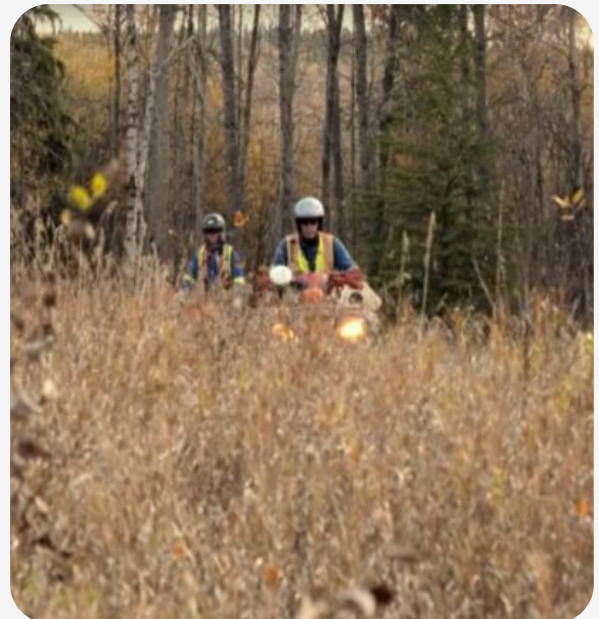
QUICK GUIDE

## Challenges

Minerals are critical to our modern society and the raw materials needed to build our world. Finding minerals in the nature is called mineral exploration and requires the knowledge of professional geologists as it is a complex process. Unfortunately, not all discoveries lead to a mineable resource. Many exploration programs are abandoned because they are not economical. It is then critical to integrate and interpret all the available data to be successful.



Photogrammetry offers strong advantages for mineral exploration companies, helping geologists prepare and organise their field campaigns. It provides a big picture from the sky of the property to explore prior to sending geologists looking for outcrops and mineral resources. Having a team in the field is expensive, and numerous factors can lead to time losses and thus money for exploration. Examples include having to cross a river, walking in a swamp area, looking for an old forestry road and bypass a steep slope.



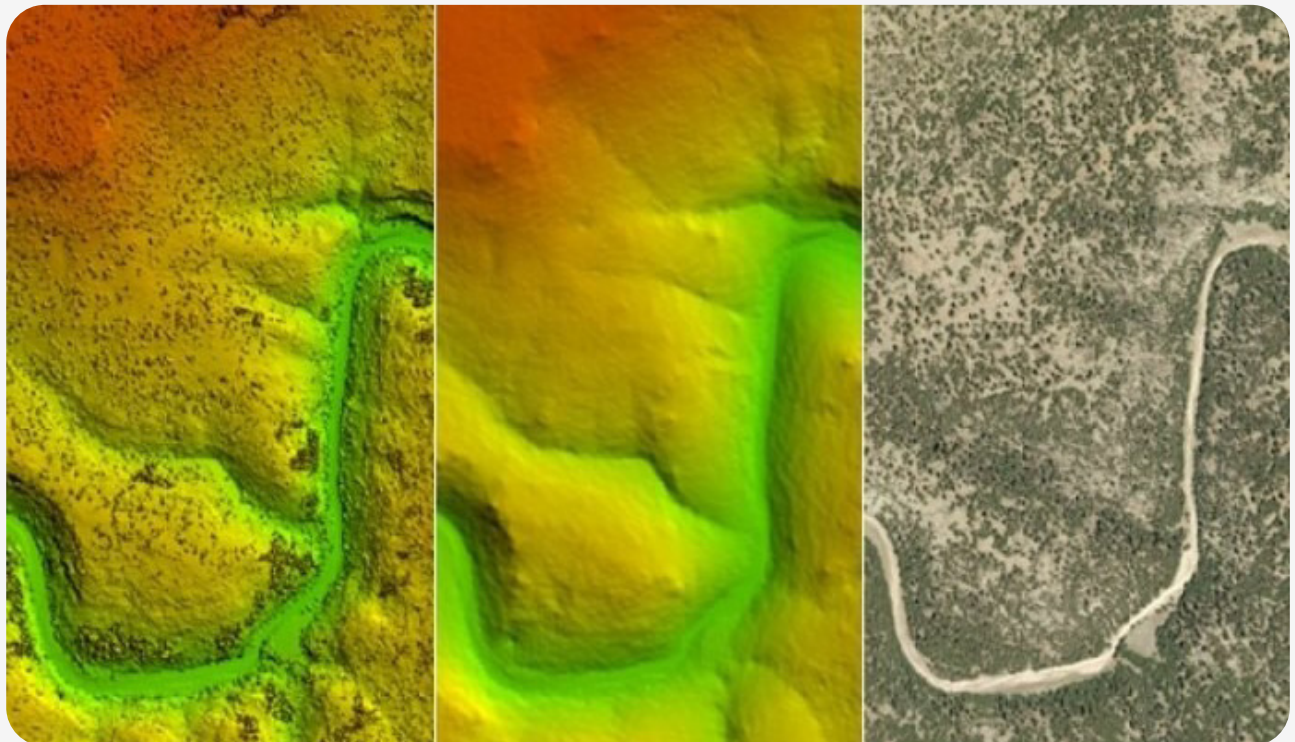
## Collection

Imagery can be collected by aircrafts, but recently drones are becoming widely used due to their low cost and ease of use. Multi-rotor or fixed-wing platforms can be flown, depending on the resolution required, the size of the area to be covered and operational constraints.



## Processing

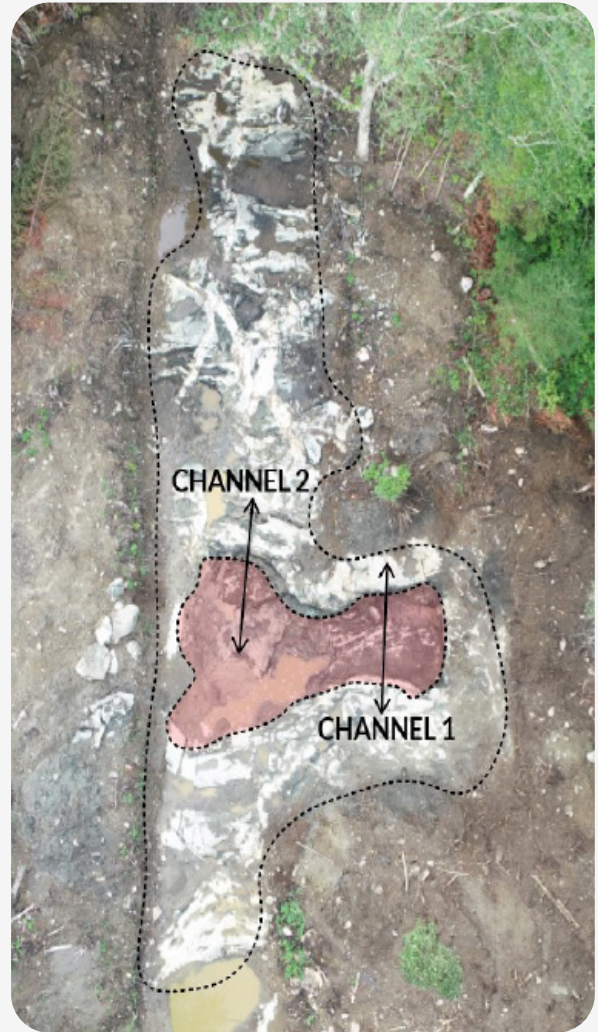
The collected data can be quickly processed by Correlator3D™ software to create different mapping products. The use of a high-end photogrammetry suite allows not only to save time by having the processing done directly in the field, but also to generate highly accurate results. These include digital surface and terrain models as well as orthomosaics.





## Interpretation

A major advantage of integrating photogrammetry in the process of mineral exploration is to help mapping the outcrops. For example, geologists can easily fly a drone and convert the acquired data into geological models to study the outcrop. In fact, having visible bedrock imagery allows some initial geological sampling, analysis and interpretation. Moreover, channel or grab samples being visible from the images provide a strong and accurate way to map and precisely locate the results. 3D change detection or volumetric calculation can also be performed. The resulting metrics are often required in reports and permits for mineral exploration, such as the amount of excavated material volumes in trenches or overburden thickness.



## Benefits

Geospatial data allows to save and optimize time in the field, leading to major financial and logistical advantages for mineral exploration companies. Flying the property prior to team deployment allows to precisely map the terrain. Geologists can then easily prepare their journey in the field to optimize time. Teams can still work and analyze the data once back in the office. The maps also provide a simple way of communicating results of field / drilling campaigns to investors, as well as improving the quality of press releases or reports.

Next Steps

DISCUSS YOUR SPECIFIC  
REQUIREMENTS WITH  
OUR SPECIALISTS

SCHEDULE MEETING

