



DEFENCE AND SPACE  
INTELLIGENCE

## Stack Insight

Making Volume  
Calculations Easy

AIRBUS



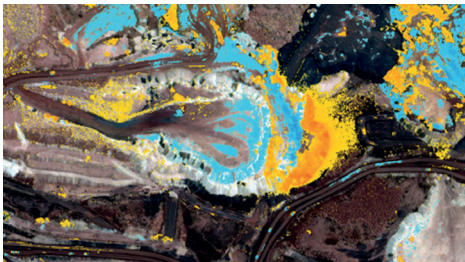
# Stack Insight

Satellite-based mine monitoring solutions and automated services for operational mines.

Airbus Defence and Space is able to support your mining activities through a number of cost-effective and reliable services, including the ability to identify even the smallest changes in your mines and accurately calculate volumes of material extracted.

## Change Detection Service

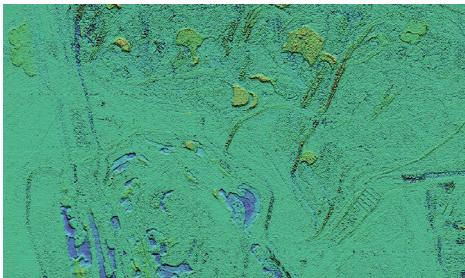
Track changes to your mines with ease



Our constellation now allows you to track changes over your mines, keeping you aware of movements and activities in your areas of extraction. We deliver the information in a comprehensive change detection analysis report.

## Volumetric Change

Calculate volumes extracted



Using our satellite-based solutions provides a highly cost-effective route to calculating exact volumes moved. In addition, benefit from daily revisit capacities and fast acquisition - no matter where your mine is located.

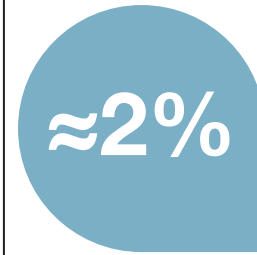
### Deliverables

#### Deliver the analysis

- JPEG report with pile contours
- Excel sheet with estimated volumes
- KMZ vectors of pile contours, with date and estimated volume

#### Various service levels available:

- Multi-year subscription contract
- Up to weekly change detection
- Weekly to bi-annual volume calculation



Volume calculation difference against LIDAR during a specific test performed. Between 5% and 20% error rate is observed when using error maps & ground survey.

### Features & Benefits

#### Precise Information

- Height of each stack on the image
- Detection of changes in the mine
- Volume extracted and/or added since last revisit

#### Savings

- Cut costs compare to land survey
- Maximise and rationalise volumes extracted

#### Accuracy

- Paper maps: error rate up to 20%
- Best error rate with land surveyors: 5%
- Satellite based monitoring: error rate < 2% (1<sup>st</sup> study results)

#### Safety

- Mine operators often located in remote and dangerous areas
- No need to send people on the ground for field surveys