Airborne Mapping System
Safe > Accurate > Versatile
A complete system for accurate airborne data capture and photogrammetric mapping using an unmanned aerial vehicle
Cost efficient system to capture airborne data

Maptek™ provides an effective airborne mapping system to capture and process photogrammetric data for mining, geospatial, agriculture and infrastructure applications.

The Maptek airborne mapping system captures and processes photogrammetric data for a wide range of survey tasks. Integration with laser scan survey, design conformance and mine planning software ensures a cost efficient and time saving solution for rapidly mapping and analysing change in mining, geospatial, agriculture and infrastructure applications.

Detailed photogrammetric mapping data is captured with unparalleled accuracy by the TopoDrone-100 unmanned aerial vehicle (UAV). The innovative gyro-stabilised, 3-axis camera mount counteracts aggressive drone flight movements to capture drift-free vertical photography.

The TopoDrone-100 can launch and land in any terrain. The aircraft can fly under clouds and in strong winds. Flight paths can be predetermined with mission control or the drone can operate in autonomous (self determining) flight mode.

Features
- 10mm horizontal accuracy
- 25mm vertical accuracy
- Gyro-stabilised camera mount
- Direct georeferencing system
- Calibrated 24 megapixel onboard camera
- Rapid data acquisition

Benefits of an integrated photogrammetry system
- Productivity: Automated system to capture and process photogrammetric data
- Integration: Seamless workflow with laser scanning and mine planning systems
- Efficiency: Regular geospatial capture in difficult-to-access areas
- Visualisation: Import, view and assess all data in true 3D
- Safety: Quickly capture data with little impact on operations
- Decision making: Detect, map and monitor changes to terrain
- Modelling: Terrain models with accurate elevation to 25mm
- Experience: Combined experience in mapping and mining technology
- Services: Professional consulting and technical support

FLY
Plan flight path, fly and capture photogrammetric data

PROCESS
Download data from UAV and process 3D point cloud

RESULT
Generate seamless digital mosaic orthophoto, terrain and surface models
Reasons to use the Topodrone system

1. Integration with leading mine planning software
2. The only end-to-end UAV photogrammetric system
3. Import, view and assess all data in true 3D
4. Quickly capture data with little intrusion to mining operations
5. Accurate, reliable results
6. Safe and cost effective solution for capturing photogrammetric data

TopoDrone-100 features and capabilities

- Accuracy: Calibrated 24 megapixel onboard camera
- Innovative: Gyro-stabilised, 3-axis camera mount
- Connectivity: Direct georeferencing system
- Flexible operation: Predetermined or autonomous flight mode
- Image accuracy: 10mm horizontal and 25mm vertical
- Operability: Catapult launching system and 1 hour flight time
- Safety: No-fly zone and geo-fence definition, low battery and recovery options
- Positional accuracy: Optional 100 Hz dual-frequency L1/L2 code/cARRIER phase GLONASS and GPS receiver with SBAS, DGNSS, RTK and PPP positioning

Applications and output

- Accurate stockpile measurements and volumes
- Profile calculations
- Fly through visualisation video for simulation
- 3D photogrammetric ‘heads-up’ feature digitising
- Geotechnical mapping - pavement cracking and deformation
- Agricultural mapping - yield predictions, vegetation stress mapping
- Seamless digital orthophoto mosaic of entire areas
- Digital terrain model (DTM) and digital surface model (DSM) contours
- Digitised linework - built environment, GIS assets
Industry Leading Global Solutions

Maptek is the leading global provider of innovative software, hardware and services for the mining industry. More than 1800 customers in 75 countries rely on Maptek. Maptek mining technology can be applied throughout the entire mining life cycle. Our solutions help reduce operating costs and improve performance, productivity and profitability. Maptek provides expert consulting, training and support services to ensure you get the most from your investment in our products.

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