Mining

Airborne Electromagnetics

In the mining industry, Mobile Geophysical Technologies (MGT) delivers significant value by deploying advanced drone-borne and ground-based geophysical systems to streamline the mineral exploration life cycle. For greenfield exploration, MGT utilizes high-resolution UAV-magnetic and electromagnetic systems to efficiently map subsurface geology and identify structural controls, such as faults and shear zones, that host prospective ore bodies. To target deeper mineral systems, they employ innovative semi-airborne electromagnetic (semi-airborne EM) techniques, bridging the gap between shallow drone flights and intensive ground-based methods to detect deeply buried conductive deposits. This UAV-integrated sensor approach drastically reduces the time required to survey vast, rugged, or inaccessible exploration blocks while eliminating the need for expensive helicopter charters or environmentally disruptive line-cutting. Operating at low altitudes allows their drone platforms to capture exceptionally dense, low-noise data, resulting in highly accurate 2D and 3D geological models for precise drill-targeting. Beyond early-stage exploration, MGT's high-resolution mapping assists in brownfield expansion by tracing existing structural trends, while their near-surface imaging capabilities support site infrastructure safety by monitoring tailings dams and mapping unrecorded underground mine workings.