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Pinchin

UAV/RPAS Best Practices, Technological Advances in Aerial Monitoring, and an Exploration of Underground Surveying Technologies

ABSTRACT

UAV/RPAS technology was a natural fit with the mining eco system being far away from the hustle and bustle of tight urban environments. Many large mining operators across the country were quick to invest and adopt this new data collection platform within a fast-moving technological transfer into the new 3.0/artificial intelligence shift.

This presentation will cover some best-practices for UAV/RPAS technologies that have survived the tests of time. It will also showcase some of the newest technologies on the horizon that will change mining operations at all stages in the pit and underground forever. Some of the discussion topics will include the use of low-altitude mag-sensors for augmenting the data density of high-elevation surveys, the incorporation of underground SLAM laser technologies to generate detailed stopes, raises, and tunneling models, as well as an overview on the complexities of aerial air quality monitoring in open pit mines.

BIOGRAPHY

Jean-François Dionne is an accomplished GIS/Geomatics specialist. He has a broad-based technical expertise in all areas of spatial technologies with over 25 years of experience. He has worked in various areas of the geospatial sciences, giving him a global perspective on the recent evolution and future direction of geomatics.

Over the last 10 years Jean-François has focused his career in various aspects of UAV/UAS technology including design/build, data collection in various sensor configurations, technical sales/support for a leading UAV manufacturer, regulatory and compliance work, advanced flight operations in areas of large scale mining, aggregate operations, highway/roadway construction, infrastructure inspection, and environmental studies.

He is also very involved in many aspects of technical land surveying using advanced tools such as airborne and terrestrial LiDAR, multibeam and sub-bottom bathymetry systems, and various configurations of multi constellation GNSS systems. Finally, Jean-François has been closely involved with many data review and technology assessment projects using traditional mapping and the Internet, to enhance stakeholder consultation and facilitate project information and data delivery.

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