

**Knowledge is Power**

Mine operators rely on MDA and RADARSAT satellite imagery to rapidly and easily monitor any mine site in the world. RADARSAT provides cost-effective global coverage for areas as small as a several square kilometers to regions as large as 2,500 square kilometers. RADARSAT monitoring provides mining operators with a clear, current understanding of land movement, subsidence, and uplift issues that can affect operational and abandoned mine sites.

MDA's mining solution combines the most advanced processing techniques and high resolution imagery from multiple sources to tailor monitoring solutions for the mining industry.

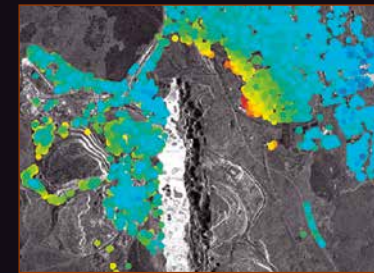
Mining operators worldwide have been benefiting from MDA's global reach, and years of experience and research in supporting the industry. MDA delivers actionable information to technical staff enhancing current monitoring practices and also provides intuitive products to help decision making from the mine site to the boardroom.

**About MDA**

With 40 years of experience in sensing technologies, MDA is one of the largest and most experienced providers of satellite-based monitoring products in the world. MDA has built the expertise necessary to understand the characteristics of your specific operations and a reputation for addressing customer needs by working closely with you to design solutions optimized to meet your needs.

MDA has an unsurpassed record of reliability, timely delivery, and customer satisfaction. MDA has production, processing, and targeted R&D teams operating across the value chain from building satellites, to data processing and product generation and delivery. With a successful image acquisition rate of 98.8%, MDA's RADARSAT-2 satellite reliably provides high-resolution, weather-independent, year-round coverage of your mining operation. Multiple ground stations and global offices enable MDA to offer the most reliable and timely delivery of InSAR monitoring services.

MDA delivers innovative, cost-effective, advanced geospatial information solutions.



SURVEILLANCE AND INTELLIGENCE

# Surface Asset Monitoring and Risk Identification



**CUSTOMER SATISFACTION**

For more than four decades, MDA has worked with its worldwide customer base to provide information solutions that leverage advanced technologies and improve business efficiency.

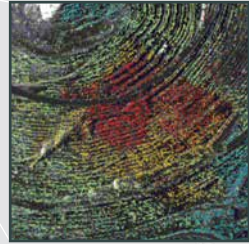
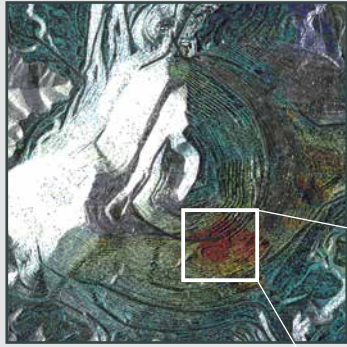
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**PIT SLOPE STABILITY**

MDA's monitoring solution for open pit mining operations provides detection of extremely subtle levels of movement which can indicate more aggressive ground movement. The very high density of measurements provides a better understanding of the spatial distribution of the surface deformation and complements data gathered by InSitu instrumentation and ground based radar monitoring systems.

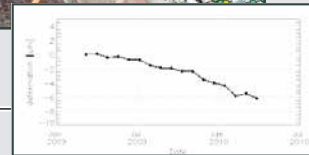
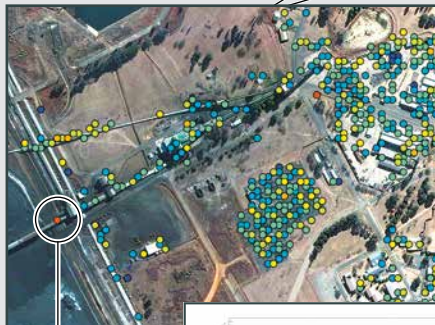


**PIT CREST STABILITY**

The high density of measurements obtained with MDA's monitoring technique collects vital information of ground movement indicators that occur near the pit crest and behind the high wall. These indicators can be a leading contributor to high wall instability and can provide geotechnical engineers with valuable insight.

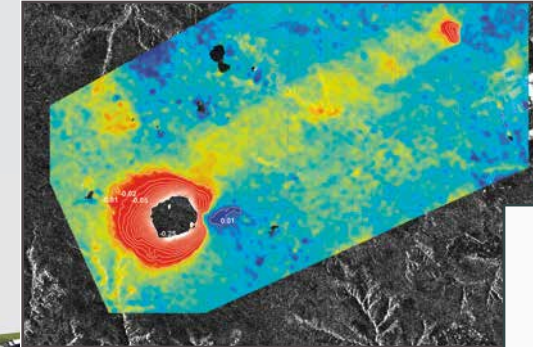
**IMPACT INSIDE MINE LEASE BOUNDARIES**

MDA's monitoring method incorporates the use of ground assets at customer sites as coherent targets to provide a high-density survey network that highlights areas of movement with the potential to damage equipment, buildings, and other assets.



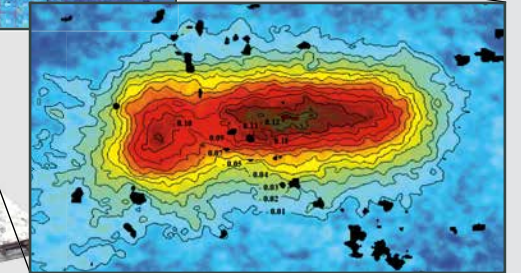
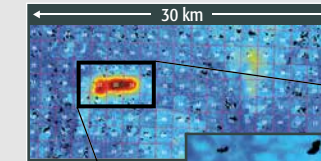
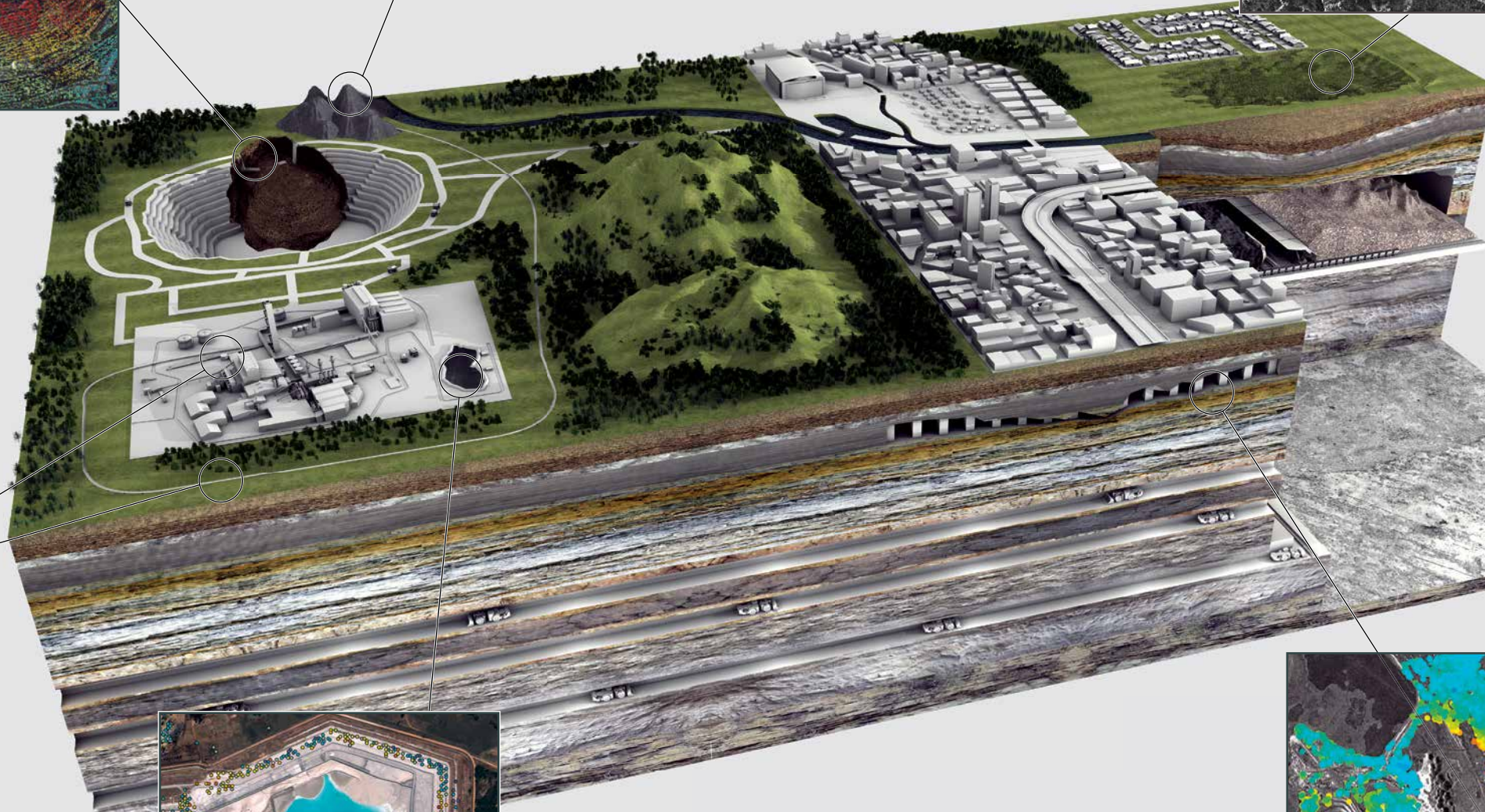
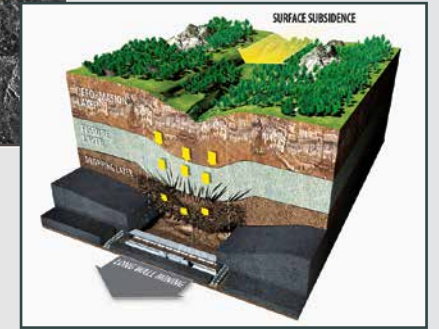
**WASTE LAND FORM STABILITY**

Settling patterns detected by MDA's solution replaces the hazardous practice of physical surveys on unstable waste land forms and enables remediation before uneven settling results in a failure.



**SETTLING OF MINED OUT AREAS**

MDA's monitoring technique provides mine operators with an accurate and intuitive geospatial representation of subsiding ground above areas where previous mining has occurred.



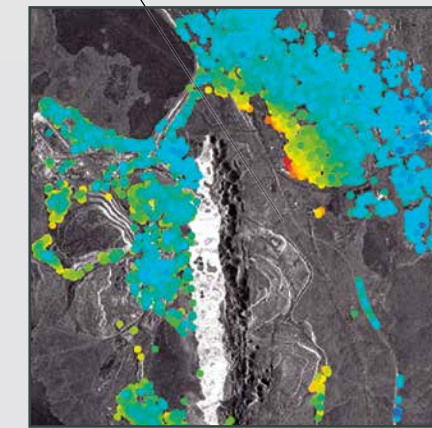
**MONITORING LARGE AREAS**

MDA's space-based surface movement monitoring techniques provide a large-scale overview of operations to rapidly pinpoint areas of instability that require immediate attention.



**TAILINGS STORAGE FACILITIES (TSF)**

MDA's monitoring solution collects high-density measurements to detect subtle movement of TSF's and queue proactive stabilization or remediation strategies as needed to mitigate any potential environmental risks.



**IMPACTS ON NEIGHBOURING INFRASTRUCTURE**

MDA's broad area, remote monitoring techniques enable mine operators to legally obtain vital information on surface movement beyond their mine lease boundaries, such as nearby urban, residential areas and adjacent industrial facilities.