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ELEVATE

INSIGHT TERRA

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Insight Terra helps its clients manage their geotechnical and hydrological risks more effectively. Its Insight Platform provides a real-time monitoring and alerting solution to capture and aggregate critical sensor data through intelligent edge-based functionality, and then curates and visualises it, enabling smarter and faster operational decision making – from 'sensor-to-action'.

The Insight Platform is an environmental and infrastructure risk management platform to make sense of data from different sensors and connectivity types, monitoring and managing data in real time. At the heart of the solution is a secure and proven 3rd generation cloud-based data management platform, built on a microservices architecture. This design enables agility, adaptability and scalability in its configuration to meet each client's unique requirements.

The platform is fully integrated and built around three core elements:

- edge-based data ingestion, validation and aggregation from sensors, historians, and other data sources;
- Inmarsat's global, all-weather L-band satellite connectivity, to ensure ultra-reliable real-time data transfer from a remote site to the platform; and
- the insight platform that curates and validates the data to make it available in real-time on an easy-to-understand customisable dashboard.

The primary use of the Insight Platform is to monitor the safety and stability of mine tailings storage facilities (TSFs). However, the solution can also be used to support a range of other environmental and infrastructure use cases in mining, including water management and pit wall stability.

Outside of mining, the solution's use cases for geo-hazard monitoring and risk management include freshwater reservoirs, hydroelectric dams, landslide monitoring and other critical infrastructure monitoring.



KEY BENEFITS

- challenges of combining data from multiple platforms
- Easy-to-use, end-to-end edge and cloud-based platform that displays all of your critical data in real-time, accessible anywhere, at any time on any device
- Flexible and transparent; data is accessible to your choice of personnel or third parties as appropriate
- Benefits from fully integrated and resilient satellite communications through Inmarsat's ELERA network which provides reliable connectivity from the remotest of sites to the cloud at all times, ensuring integrity of data collection
- Insight does more than just present the raw data from sensors and other inputs; it provides the full functionality to set multiple trigger threshold levels for each data source and integrate alerts and notifications to provide advance warning, and enable effective real-time risk control
- Provides information to project managers, operational engineers and other field personnel, to enable them to act in accordance with their risk mitigation plans
- The Insight Platform has centralised, fully integrated data analytics and calculations, ensuring consistent and reliable treatment of data and real-time validation of results
- Enhanced and integrated data management, reducing the cost of mining operators' insurance



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FEATURES

- Insight is an environmental and infrastructure risk management platform which makes sense of data from different sensors and connectivity types, monitoring in real-time structural integrity from geotechnical instrumentation
- Insight transforms raw sensor data into calculated and contextual metrics that provide unrivalled visual clarity of key monitoring variables and processes this data into a single unified management platform, accessible through a visualisation dashboard
- Insight is highly interoperable and can integrate with business ERP process management software, providing deeper insights and calling upon defined workflows
- The Insight Platform is a Software-as-a-Service (SaaS), built upon Amazon Web Services cloud infrastructure using a microservices architecture, and is scalable, adaptable and secure
- The Insight cloud-based platform collects and aggregates highly granular raw data from multiple data sources (sensors, enterprise systems, operations and geolocation information, other monitoring software), from multiple sites, in real-time

- Insight integrates with existing on-site sensors and associated networks to enable real-time monitoring, as well as supporting historical data input for comparative analysis
- Insight also features edge connectivity and analysis, satellite connectivity (where necessary and to provide resilience to existing terrestrial networks) and ongoing service monitoring and management
- The platform can support any location globally and is ideal for projects or installations without reliable external connectivity

USER SCENARIOS

- Monitors the safety and stability of tailings storage facilities and their surrounding environment, and other on-site infrastructure, including water management and pit wall stability
- Monitors the integrity of critical infrastructure and its surrounding environment to better manage geotechnical risks for freshwater reservoirs, hydroelectric dams, landslide monitoring and other similar scenarios where there is a threat to the environment from infrastructure, or vice versa



"Insight Terra's pioneering use of IoT for monitoring tailings dams makes sites safer and helps mining operators meet their essential environmental, social and governance responsibilities as required by national governments, industry regulators and investors."

"Inmarsat was instrumental in the development of the Insight Terra solution and our launch as an independent company. We're delighted to join the Inmarsat ELEVATE programme and see it as an important platform for driving growth, reaching new customers in new markets, and expanding into new sectors outside of mining in the future."

Alastair Bovim,
CEO, Insight Terra



HOW TO BUY

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inmarsat.com/enterprise

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