

Atlas InSAR Mine Care

Optimise Operations and Reduce Risks Across Your Entire Mine with Satellite Data

CHALLENGES & GOALS

- **Obtain precise deformation measurements** affecting the whole mine, including any surface infrastructure, pits, tailings dams, leach pads, waste piles, pipelines, and access roads
- **Measure the stability** of inaccessible/abandoned mining areas or infrastructure where site intervention is difficult, costly, or dangerous
- **Measure deformations** from slow to fast, from millimetre to metres
- **Optimise operations, reduce risks, and input deformation prediction models**
- **Optimise and complement ground instrumentation** management



OUR SOLUTION



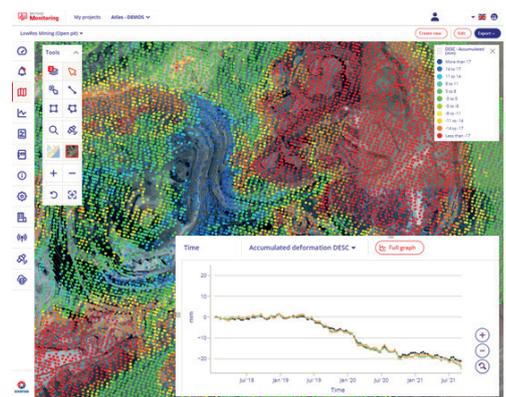
Atlas InSAR is Sixense's **Interferometric Synthetic Aperture Radar (InSAR)** solution that measures **ground deformation** and **structural stability** from space with millimetric precision.

Atlas InSAR provides a comprehensive understanding of ground behaviour over mining operations and a high-precision detailed analysis of individual assets that require structural and geotechnical risk management.

Sixense provides **high-quality satellite services** to **mine management** with four **main objectives**: increase operational safety, reduce uncertainty, minimise on-site intervention, and contribute to efficient instrumentation network planning.

OUR ADDED VALUE

- Sixense has a **worldwide presence** in over 25 countries
- **Advanced processing chain** compatible with all SAR satellites (X, C and L-band), we select the optimal solution depending on site conditions
- **Quick reporting** after each satellite acquisition to meet monitoring needs
- Team of engineers with **strong expertise** in InSAR and **robust knowledge** of mining geotechnical challenges
- Focus on enhancing the project outcome: **flexible monitoring** plans to meet dynamic mining needs
- Design, manufacture, and installation of Artificial Corner Reflectors to **guarantee measurement points** in key assets
- **Unique competence** combining InSAR with Ground Instrumentation services
- **Advanced platform**, Beyond to transform **cutting-edge data** into **actionable information**



CONTACT US

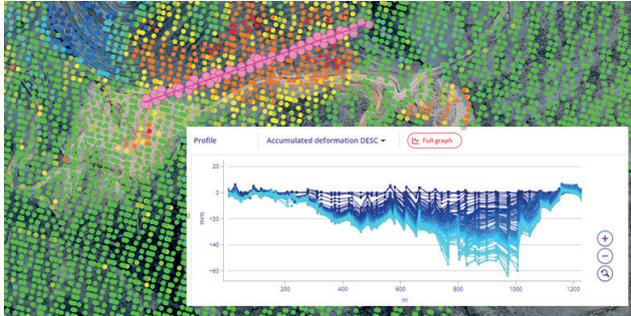
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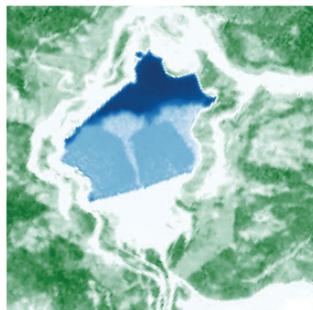
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OPEN PIT AND UNDERGROUND MINING OPERATIONS



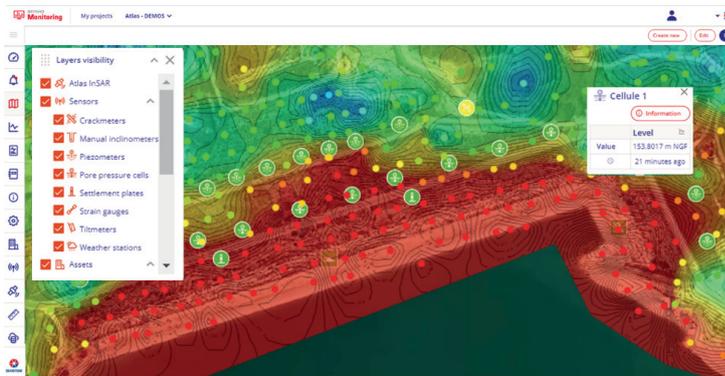
- **Monitoring of slope's stability** in open pit mines, quantification of movements and their progress over the time
- **Monitoring of settlements** in heap leach pads, crushers, waste dumps, conveyor belts or other critical structures
- **Monitoring of subsidence** induced by underground mining activities such as block caving and longwall mining
- **Monitoring mining closure**

TAILINGS STORAGE FACILITY



- **Understanding the behaviour** of the **infrastructure** over time
- **Periodic measurements to help infrastructure management** and **identify structural weaknesses**
- **Prevention of breakage** with detection of precursor movements
- **Mapping of surface moisture**
- **Monitoring of inactive dams and slopes**

BEYOND PLATFORM - DATA MANAGEMENT OF YOUR MINING SITES



- Beyond transforms **Atlas InSAR data** into **actionable information**
- The **user-friendly interface** comes with a set of filters and tools to handle large datasets in an agile way to **reach decisions** with confidence
- Dynamic **integration of information from third parties**: orthophotos, assets, documents, work progression
- Unique **platform centralising multi-sensors** and integrating ground instrumentation and Atlas InSAR

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