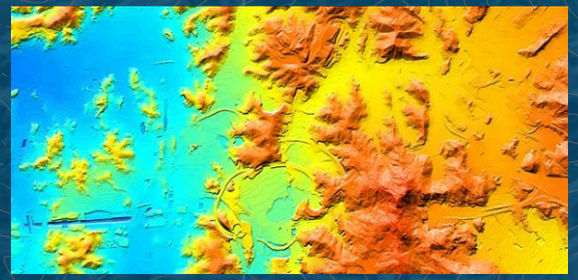
VISICOM®

3D DIGITAL MAPS

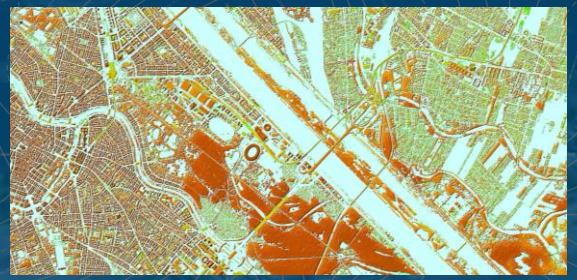
FOR MINING SECTORS



EVIRONMENTAL MONITORING

COVERAGE ESTIMATIONS

INFRASTRUCTURE PLANNING



COST SAVING

www.visicomdata.com

POWER OF 3D MAPS IN MINING

MODERN MINING

HIGH DEMAND, HIGH IMPACT

Challenges of mining:

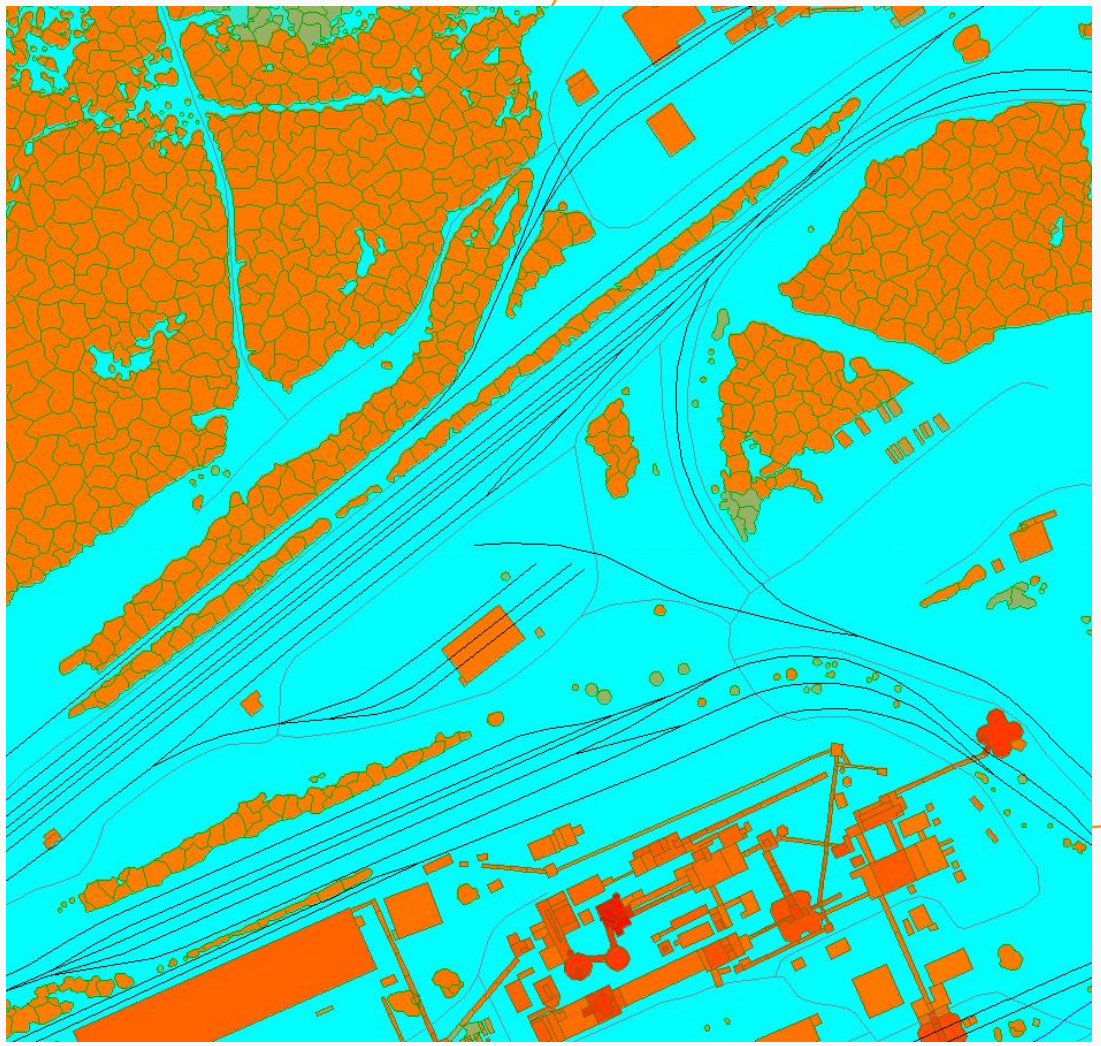
- Over 100 billion tons of minerals mined annually – and growing
- One of the most environmentally complex industries
- Critical need for efficient extraction and environmental responsibility

Environmental impact of surface mining:

- Major changes in land use and soil cover
- Permanent topographic alterations from waste material
- Growing pressure to reduce environmental harm

Need for sustainable monitoring:

- Minimize mining footprint
- Monitor risks and ensure operational safety
- Support transition to sustainable mineral extraction
- Long-term surface observation is essential



DIGITAL MAPPING IN MINING INDUSTRY

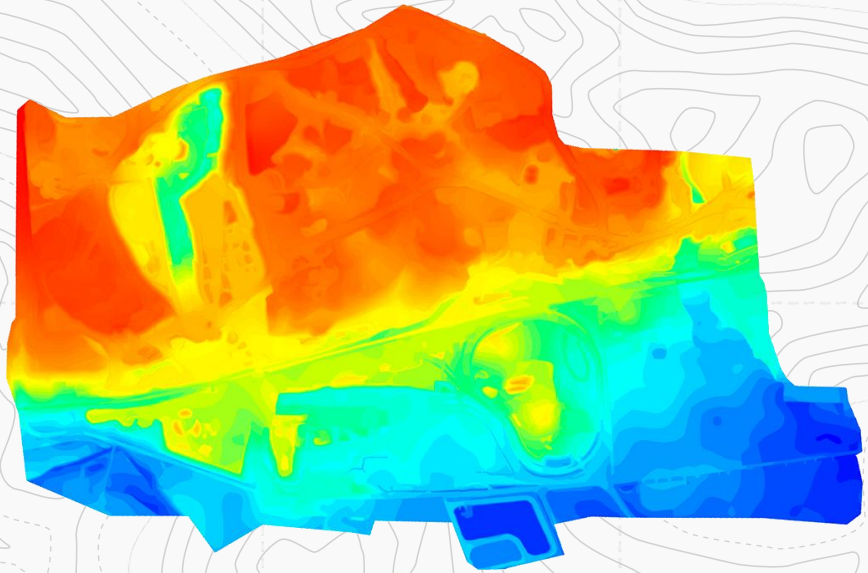
3D maps provide the spatial foundation for mining:

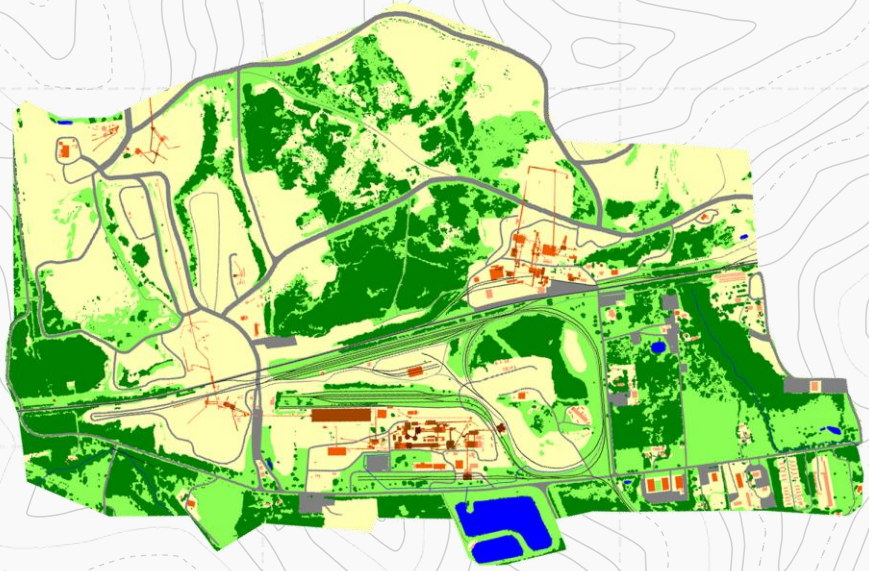
- Accurate modeling of terrain, infrastructure, and vegetation
- Smart planning for extraction, logistics, and safety
- Reliable data for environmental monitoring and 5G coverage
- Faster project starts — no need for field visits or outdated maps

3D IS ABOUT PRECISION AND EFFICIENCY.

TOGETHER, THEY DRIVE SMARTER MINING.

3D MAPPING SOLUTIONS FOR MINING





3D MODELING OF QUARRIES, BUILDINGS, AND INFRASTRUCTURE
VISICOM creates high-precision digital models of quarries, dams, roads, buildings, and engineering objects based on geospatial data, satellite imagery, and topographic information

BUILDINGS WITH LOD1-LOD2 LEVEL DETAIL
Detailing roof shapes and facades ensures the accuracy of infrastructure design and telecommunication planning.

DIGITAL TERRAIN MODELS (DTM)
VISICOM has extensive experience with terrain models, including in difficult mountainous and rugged areas, which are crucial for mining projects and 5G network implementation.

3D VEGETATION MODELS CONSIDERING SEASONALITY
Modeling green zones is critical for calculating 5G signal losses at different times of the year. We account for seasonal changes in vegetation density.

ORTHOPHOTO PLANS AND ROAD NETWORKS
Up-to-date imagery and high-precision vector maps ensure logistical planning and access control to facilities.

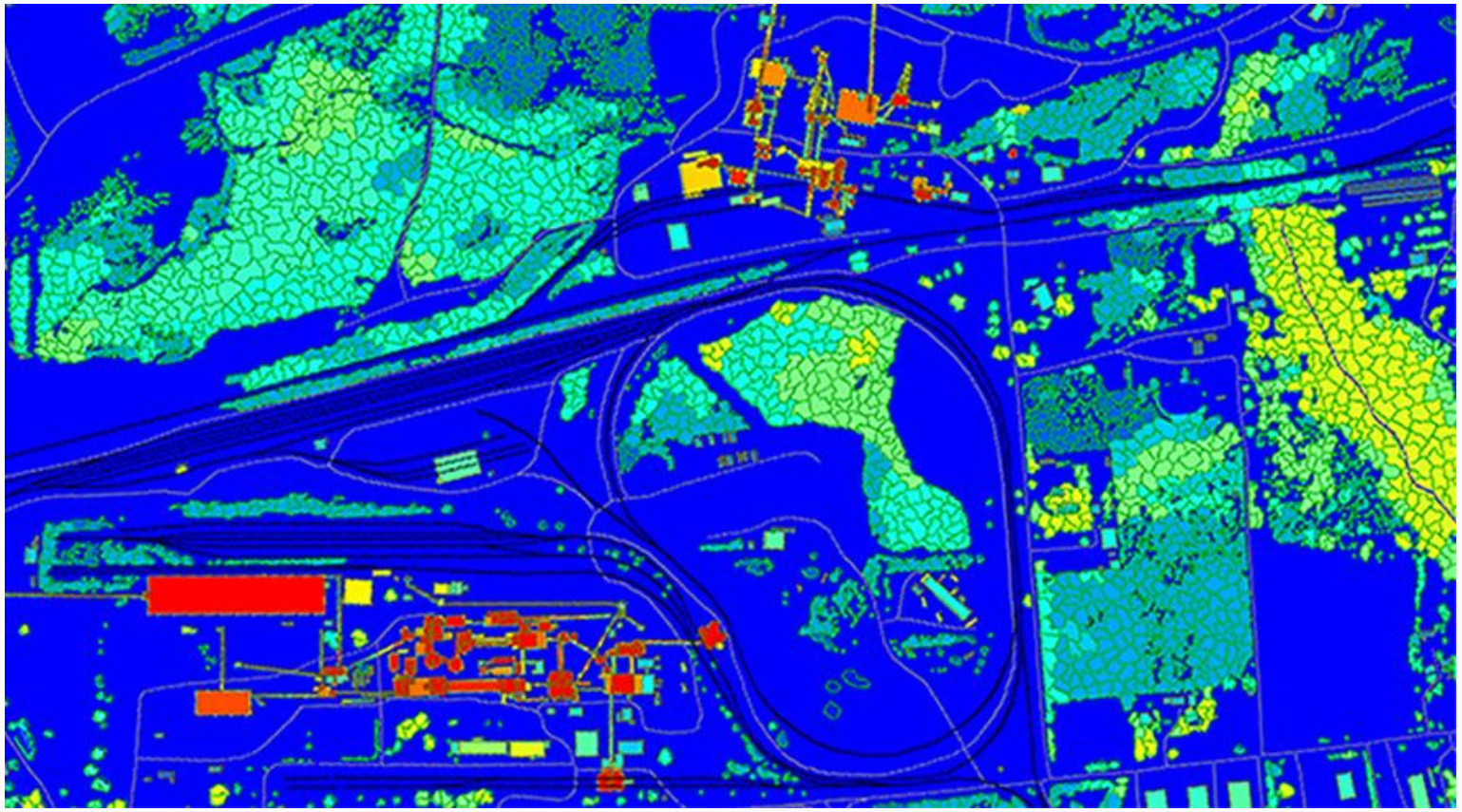
INTEGRATION OF IOT DATA AND TELEMETRY
The platform enables the visualization of machine operations, routes, resource consumption, and other processes in real time.

SATELLITE ANALYTICS AND REMOTE SENSING (RS)
VISICOM works with remote sensing data to continuously update the mapping base without the need for field visits.

DIGITAL TWIN APPLICATIONS IN MINING

PLANNING AND DESIGN OF 5G NETWORKS

- Specifics of Standalone 5G implementation in complex mountainous terrain
- mmWave signals have low penetration, making precise placement of base stations critically important
- Due to the terrain complexity, 3D models are used for:
  - Line-of-sight analysis
  - Obstruction mapping (buildings, vegetation, terrain)
  - Optimal placement of small cells
  - Interference management



ENVIRONMENTAL MONITORING

- Modeling environmental impact
- Risk prediction: landslides, flooding, pollution
- Planning for reclamation and land restoration activities

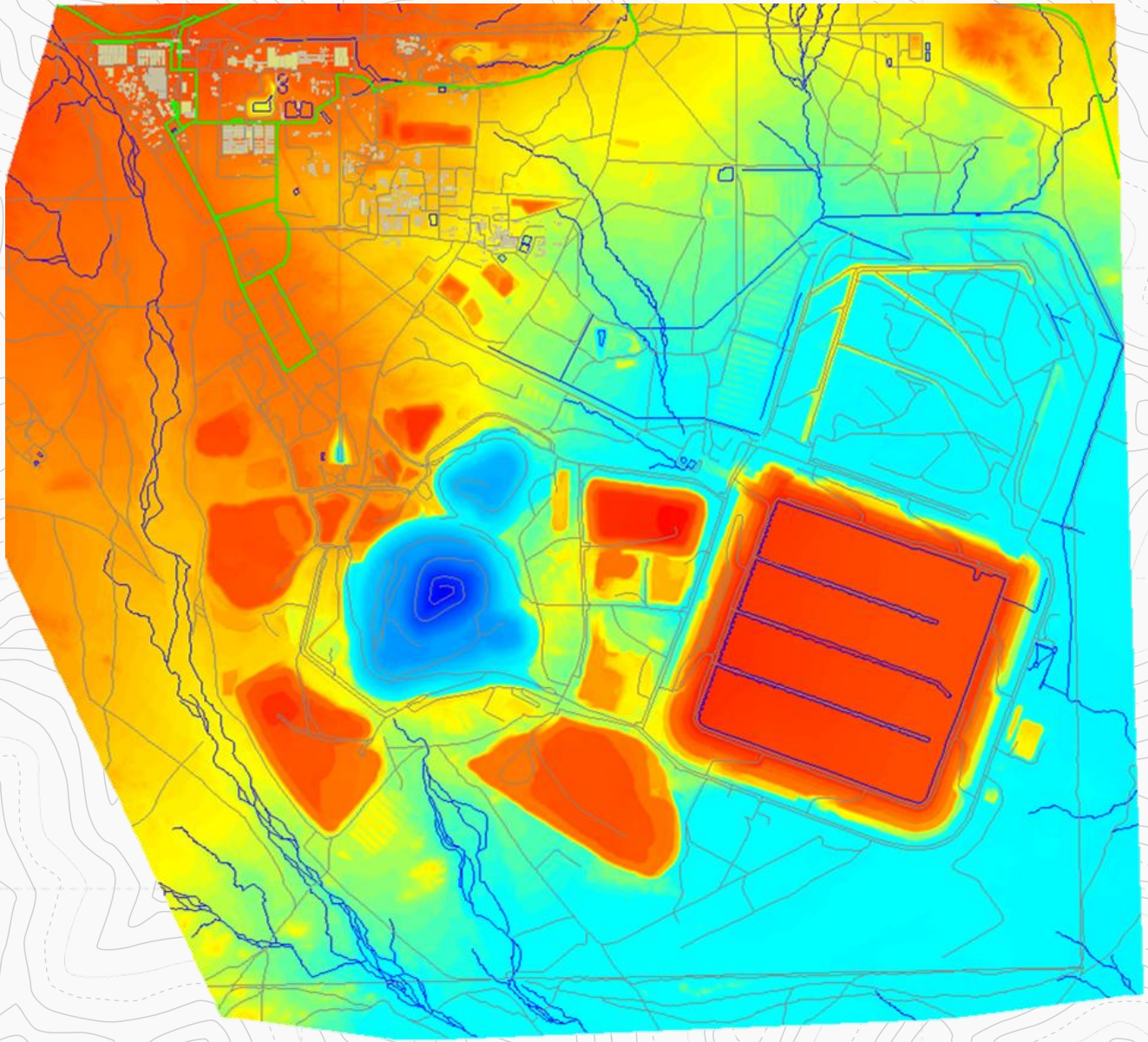
TRANSPORT MANAGEMENT

- Optimizing resource delivery routes
- Monitoring fuel consumption and logistics efficiency

GEOLOGY AND EXPLORATION

- Modeling development zones and planning drilling operations
- Assessing site accessibility and planning transport routes
- Considering terrain features and environmental restrictions

DIGITAL MAPPING IN MINING INDUSTRY



VISICOM'S 3D Digital Models for Mining provide an optimal balance of high resolution, quality, and cost-effectiveness. By combining data derived from high-resolution stereo images with advanced processing algorithms, these models serve as an efficient tool for professionals in industries related to mineral extraction.

Our **Digital Terrain Models (DTM)** as a critical component for planning and analysis, enables industries to make informed decisions based on accurate and up-to-date cartographic data.

We produce highly accurate global 3D data to ensure the efficiency and reliability of your geospatial projects.

VISICOM 3D MODELS

1M, 2M, 5M RESOLUTION MAPS

PRODUCTS FEATURES

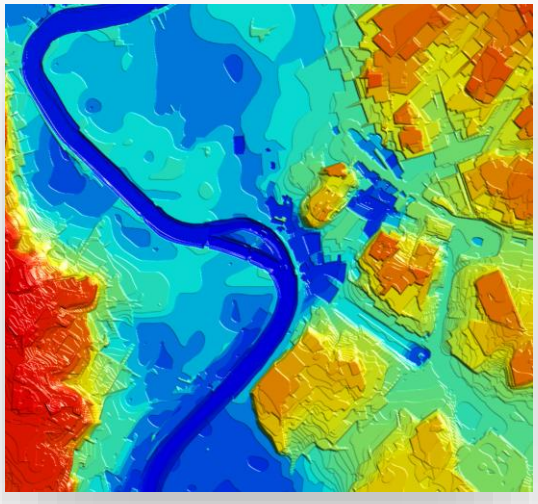
- X,Y, Z accuracy ± 3 m
- Building heights accuracy ± 3 m
- Building details: LoD 1.3.
- Represents all buildings structure
- Processing of irregular quarter's structure with high building density
- Vegetation is provided as detailed foliage, including separate trees with individual heights
- Bridges are provided with attributes of height and thickness
- Clutter classes: up to 35
- Vector classes: up to 17

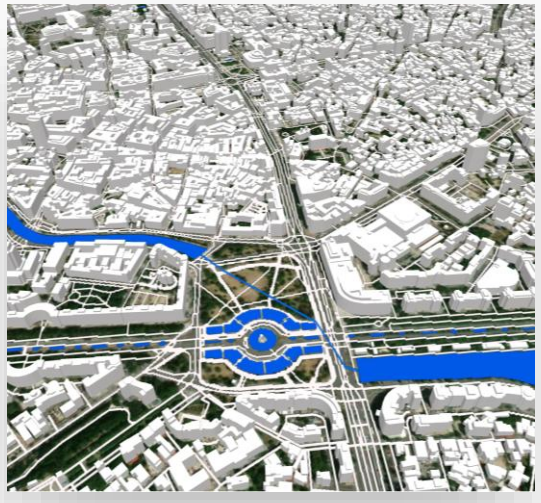
DATA FORMATS

Digital Maps are delivered in any RF-tool formats and compatible with any propagation models like Atoll Aster, Atoll CrossWave

DATA VINTAGE: 2025

SOURCES: 0.3-0.5 m resolution stereo images





VISICOM®

WHAT WE PROPOSE

- HIGH QUALITY AND ACCURACY MAPS
- FREE DATA SAMPLE OR TRIALS
- HIGHLY COMPETITIVE AND FLEXIBLE PRICES
- MEETING ALL CUSTOMER REQUIREMENTS