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ELEVATING PRECISION MAPPING AND MODELING WITH PHOTOGRAMMETRY LIDAR & SOLUTIONS

At **AXIOM GROUP**, we harness the power of cutting-edge technologies to deliver unparalleled accuracy and insight into the world around us. Our expertise in photogrammetry and LiDAR opens new dimensions in mapping, modelling, and analysis, empowering your projects with the clarity and precision they deserve.

LiDAR, which stands for Light Detection and Ranging, is a remote sensing method that uses light as a pulsed laser to measure variable distances to the Earth. These light pulses, combined with other data recorded by the system, generate precise, three-dimensional information about the shape of the Earth and its surface characteristics.

WHAT IS LIDAR USED FOR?

- **Exploration Geology:** May be used for surficial structural mapping, Identification of historic trails and drill sites, and for highly detailed geospatial layers to inform drilling and other exploration efforts.
- **Topographic Mapping:** Creates highly accurate digital elevation models (DEMs) of the Earth's surface, which is useful for planning and development, environmental management, and disaster response.
- **Forestry:** LiDAR can measure tree heights, biomass, and canopy structures, aiding in forest management and carbon stock assessments.
- **Agriculture:** Farmers use LiDAR for precision agriculture, such as determining crop height, mapping fields, and monitoring growth conditions.
- **Urban Planning:** Cities use LiDAR to 3D model urban environments, assess infrastructure, and plan new developments.
- **Archaeology:** LiDAR helps archaeologists uncover hidden structures and features beneath forest canopies or dense vegetation.

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Photogrammetry is the passive version of LiDAR. It creates 3D point clouds and detailed orthophotos from everything seen by the camera. It is a cost-effective and proven method for mapping and recording areas with high resolution.

WHAT IS PHOTOGRAMMETRY USED FOR?

- **Geology and Mining:** It maps geological features, analyzes rock formations, and assesses mining sites for resource estimation.
- **Mapping and Surveying:** Photogrammetry is widely used in cartography for creating topographic maps, cadastral surveys, and orthophotos.
- **Architecture:** To create accurate 3D models of structures and areas
- Construction: Surface and volume information for construction and quantity tracking
- **Cultural Heritage Documentation:** Archaeologists use it to document and preserve historical sites and artifacts in high detail.
- **Forestry and Agriculture:** Provides detailed 3D models to monitor vegetation, assess crop health, and manage forests.
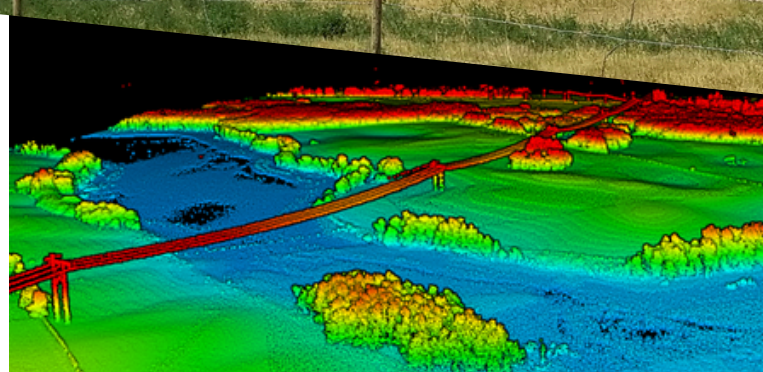
Find out more about all the ways we can help — contact us to schedule a consultation, and we will:

- Work with you to identify the data and other deliverables you need to meet your goals
- Assign a team to integrate project management with technical components
- Clearly communicate at every step

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