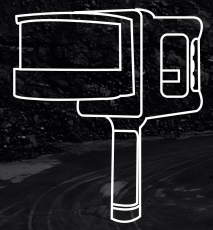


GHJS12

Explosion-proof 3D Laser Scanning
Mobile Measurement System

Solutions for mining applications

Brand Introduction

NEW Style for Mobile Measurement

The mobile measurement system uses SLAM technology (simultaneous localization and mapping), which is real-time positioning and mapping technology. It does not rely on GNSS positioning such as GPS, and performs self positioning and incremental 3D mapping in unknown environments such as indoor and outdoor space.

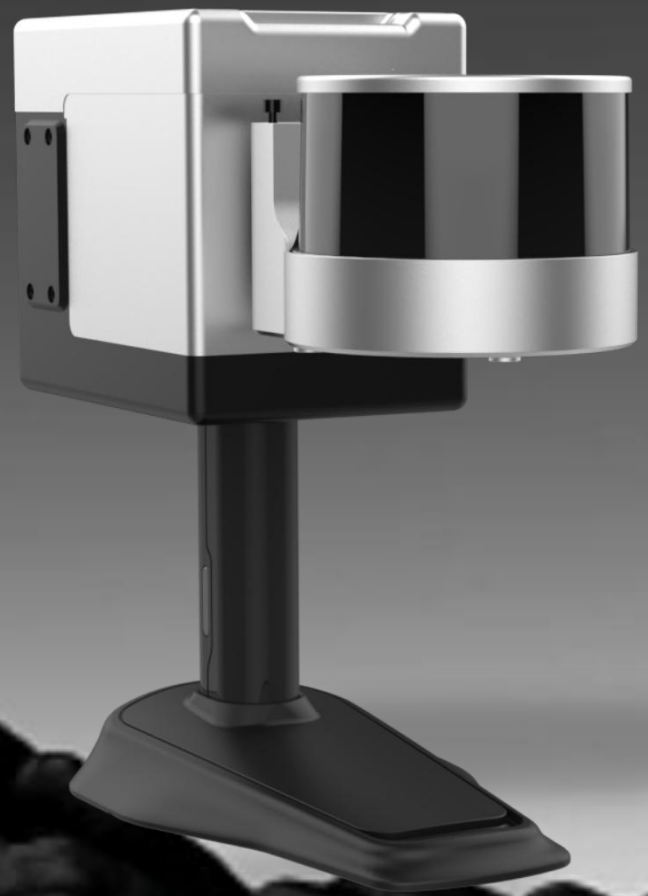
Real Time **Accuracy** **Efficiency** **Simplicity**

It is committed to providing user centered 3D laser mobile scanning measurement system product solutions, bringing users a better work experience.

GHJS12

GHJS12

Explosion-proof 3D laser scanning
mobile measurement system



Introduction

Power display

Built in battery, supports real-time display of remaining battery power.

Working status

Working status display screen, supporting the display of device current status and scanning of working status.

Laser radar

Rotating laser sensor with a scanning radius of 120 meters, point accuracy of up to 1cm（Highest）, scanning speed of 320000 points/second, 360 ° × 280 ° scanning range.

Explosion proof integrated design

Handheld integrated design, no external equipment, easy to start scanning work, and the equipment complies with electrical equipment standards for explosive environments, ensuring safety mining work.

Scanning, stop

Control point buttons

GHJS12

Product Advantages

Rotating laser sensor

Continuing the vertical rotation design of the laser, the GHJS12 system has a scanning radius of 120 meters and the ability to collect 320000 points per second. It has a super large field of view angle 360°X280° with a point accuracy up to 1 cm.

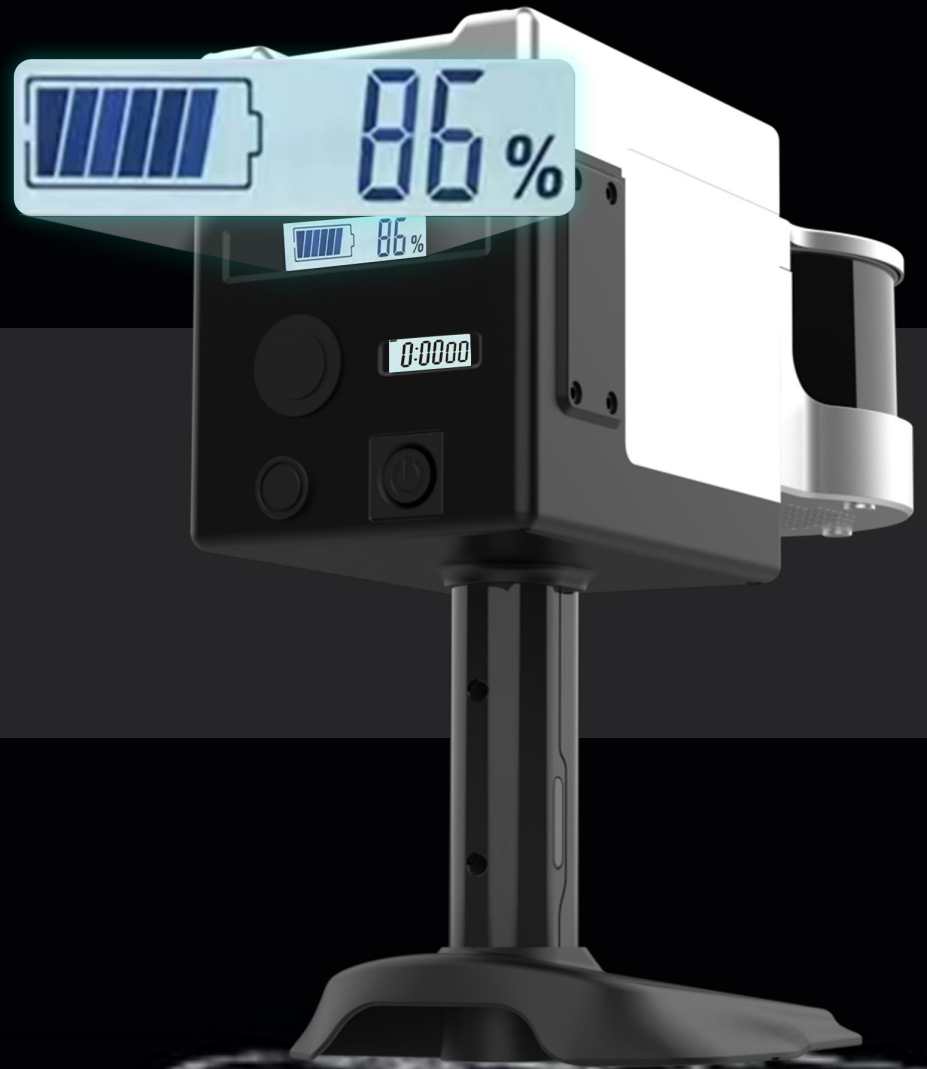
Excellent weather resistance

GHJS12 system has excellent weather resistance, can operate in an environment of - 20-50 ℃, and has a high level of protection against dust and water, suitable for various environments.

Integrated design

The GHJS12 system adopts a handheld integrated design with no external equipments, making it easy to start scanning work, making it suitable for measurement work in special environments such as mining.

Product Advantages



Power display

The GHJS12 ultra clear panel can quickly and intuitively determine whether to charge and display the battery status and level.

Product Advantages

Status display screen

GHJS12 is equipped with a status display screen, which supports more status information display and operation instructions, making it easier to use and get started.

Product Advantages

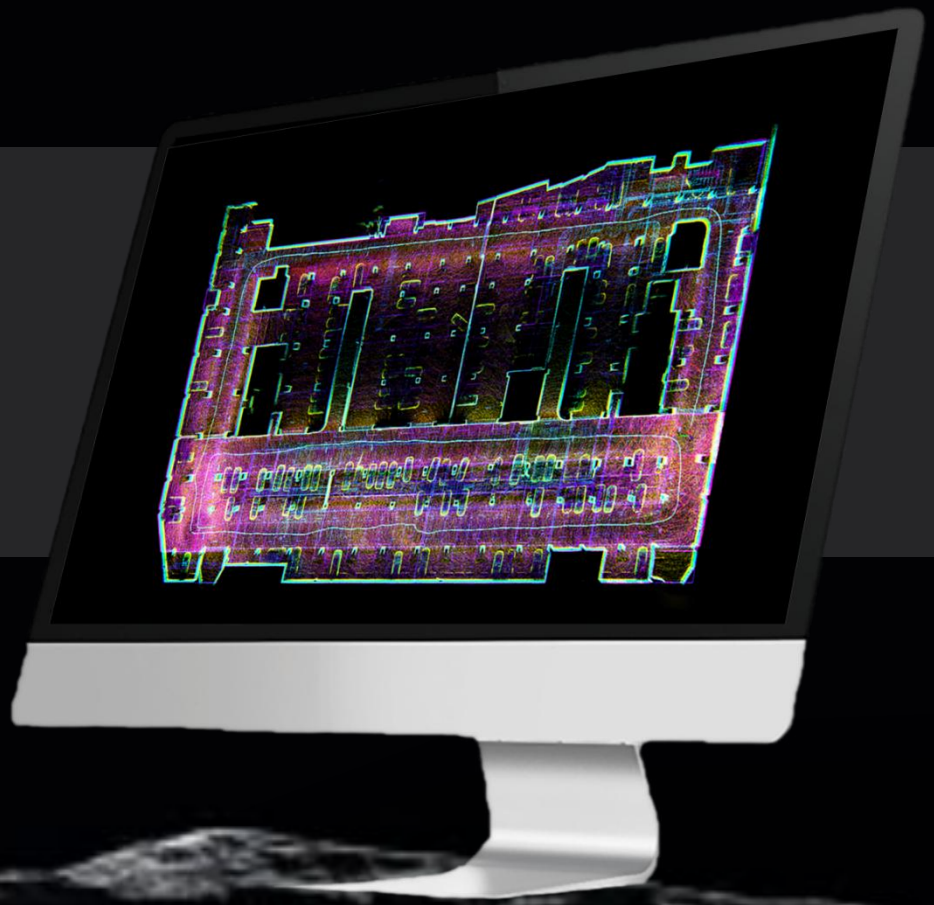
Anchor Point Process

With the GHJS12 system, we can still use the widely acclaimed anchor point function, which can calculate the overall average error of mining channel data through known points. The scanning work under the mine is intense, and the anchor point function can effectively ensure the overall accuracy of long-distance complex mines, ensure the effectiveness of each acquisition, reduce unnecessary repetitive operations, and improve production efficiency.

Product Advantages

The second generation drawing system

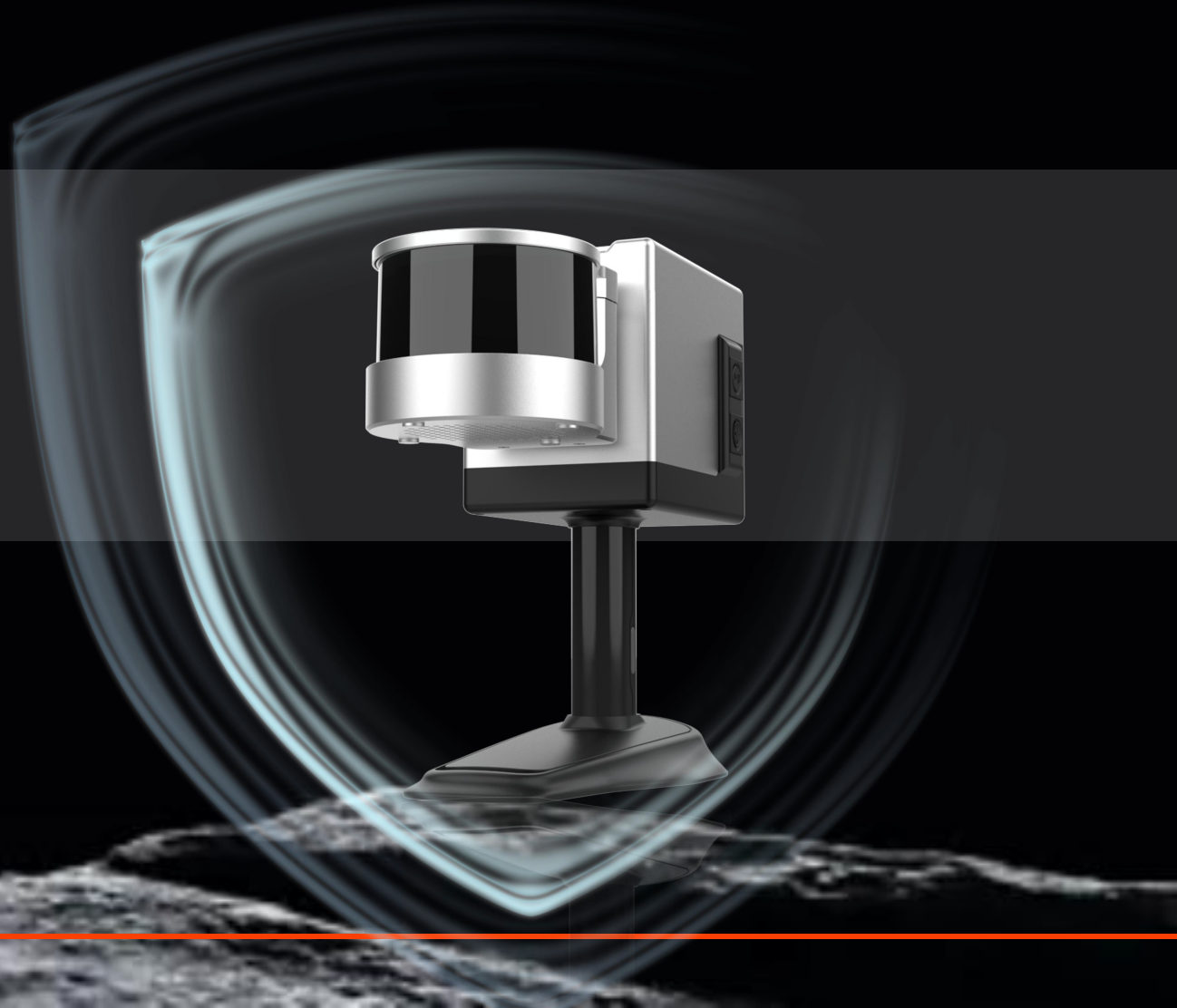
GHJS12 syatems adopts a brand new second-generation mapping system, which has significantly improved its robustness, success rate in low feature environments, and data accuracy. It has also added corresponding processing modes for mining tunnel environments, further enhancing its industry specificity and better serving the mining industry.



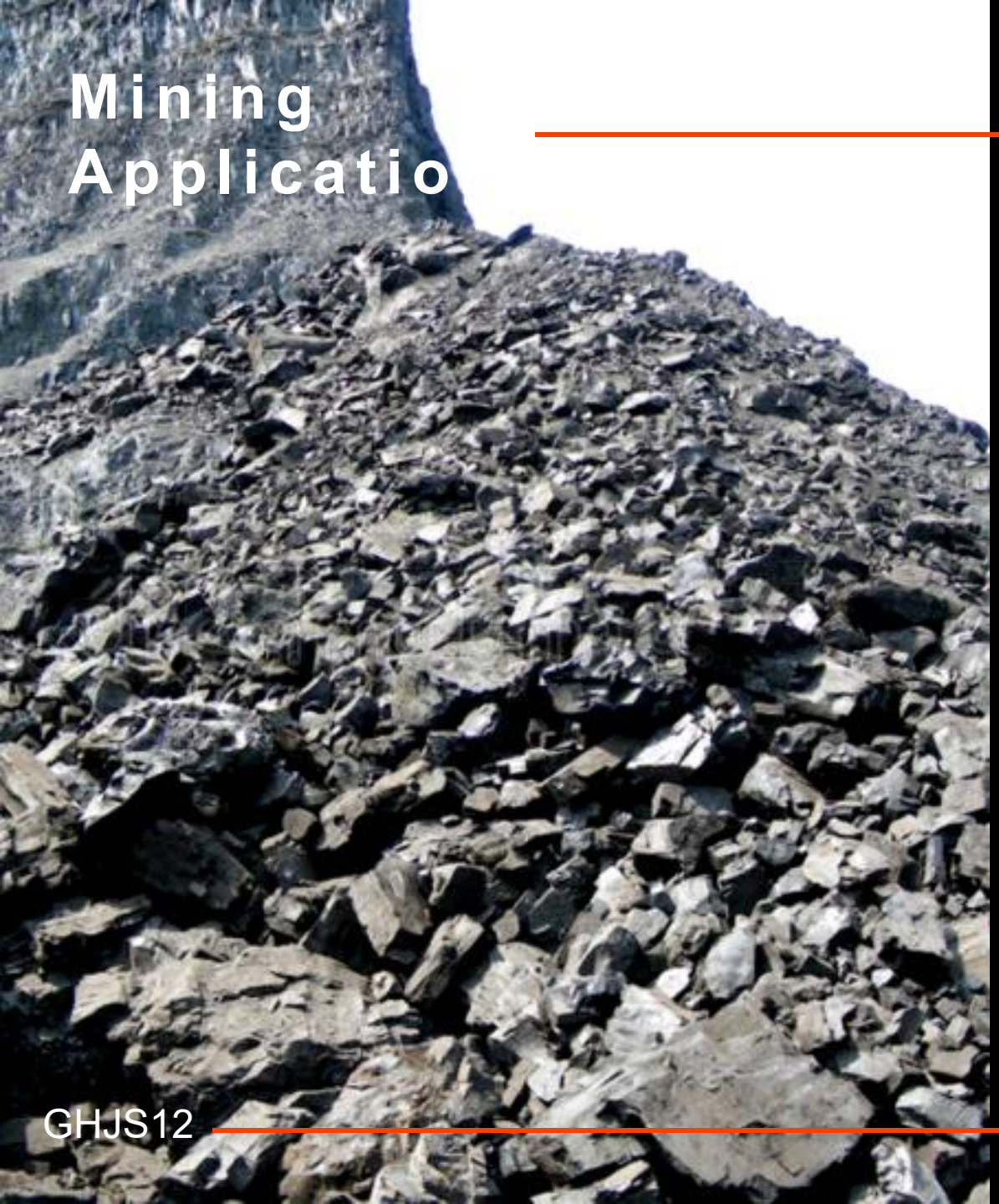
Product Advantages

Certification of explosion protection

For underground empty areas such as coal mines, there may be problems where measurement personnel are unable to measure or have high difficulty and high risk. GHJS12 systems meets the electrical equipment standards for explosive environments, ensuring safe, reliable, and stable operation in coal mine environments.



GHJS12



Mining applications

The data collection and survey within the mining tunnel is an important part of ensuring normal production, and its accuracy and comprehensiveness directly affect the management's decision-making direction for the mine. Due to the special measurement environment under the mine, there are many limitations on measurement methods.To ensure normal production and operation, as well as the accuracy and completeness of measurement data, with the development of modern industries and the gradual popularization of digital mining management models, the demand for complete and accurate 3D digital mining information collection is significantly increasing. Traditional measurement equipment such as total stations in the past clearly cannot meet the data requirements of modern 3D digital mining platforms.

The GHJS12 explosion-proof 3D laser scanning mobile measurement system is built on the basis of the laser SLAM algorithm, which can achieve autonomous scanning and mapping without external satellite positioning assistance. It is an important choice for establishing 3D data in closed environments such as mines. The redesigned explosion-proof hardware scheme allows GHJS12 to achieve explosion-proof functions without the need for external explosion-proof covers, while also adopting an integrated design without the need for external equipment, This makes the overall hardware equipment very lightweight, making it easier for single person operations in the mine. It can also collaborate with basic measuring instruments through anchor mode to obtain high-precision data. The composite material shell is more suitable for high-strength operations and can also withstand high temperature and humidity working environments in the mine. The simple button setting makes hardware operation simpler, and the training cycle for operators is shorter, At the same time, the supporting software of GHJS12 can perform data calculation, concatenate multiple sets of data, calculate the volume of mines, piles, and other materials, support the encapsulation of Mesh models based on mine point clouds, and provide available 3D model data for digital platforms.

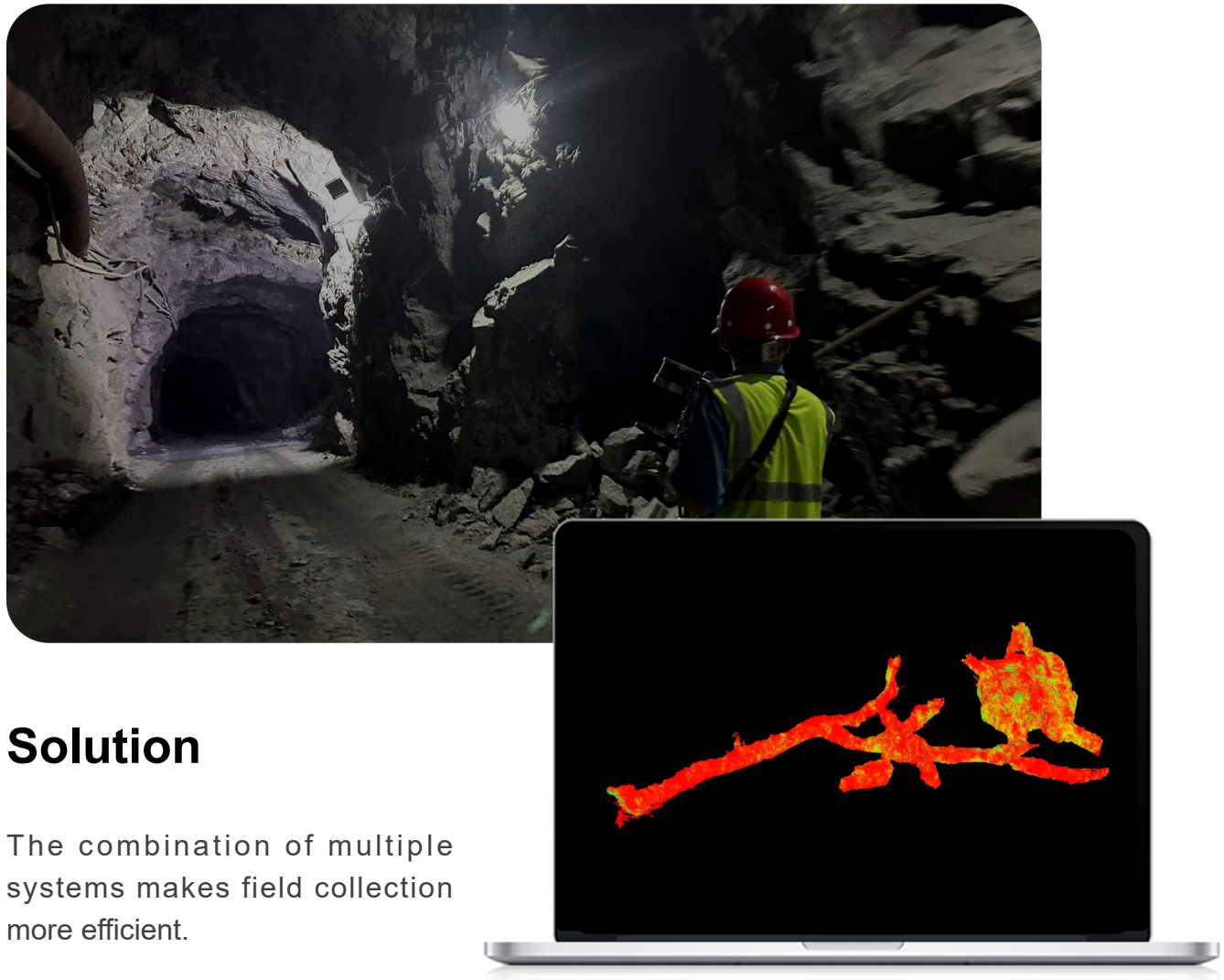
Mining Applications

Advantages

· The flexible and versatile GHJS12 system uses different solutions based on the on-site environment;
·The supporting post-processing software can be used in conjunction with various traditional surveying and mapping equipment to provide comprehensive and powerful data assurance for office mapping.

Orientations

Mining: Scanning and Mesh modeling of mine tunnels, replacing traditional measurement equipment to obtain mine tunnel coordinates in complex environments, conducting inventory checks on excavation quantities of mine tunnels, mine piles, measuring over and under excavation, filling abandoned mine tunnels, scanning and calculating data for goaf areas; It can also be used for coal piles, earthwork volume inventory, quarterly consumption inventory comparison, and coal ash measurement;



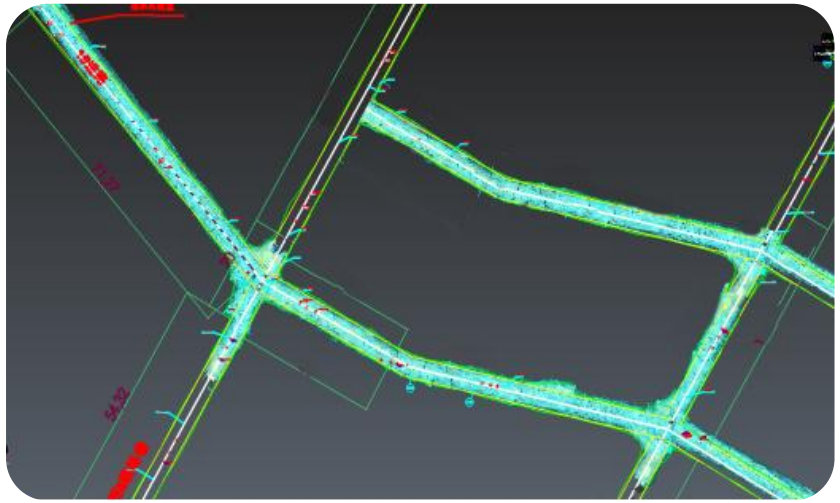
Solution

The combination of multiple systems makes field collection more efficient.

Mining Applications

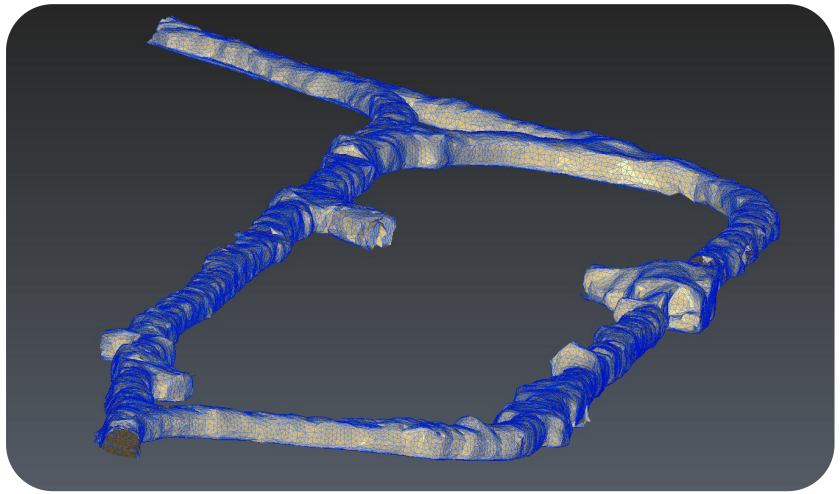
Matching point cloud data with CAD draft

The 3D point cloud data collected by GHJS12 can be matched with CAD draft. This method can be used to check the accuracy of the GHJS12 point cloud and compare the actual mining lane boundary with the design boundary. It can also be used to supplement the plan of vacant areas such as goafs, complementing traditional 2D plans.



Generating a 3D model of tunnel by one click

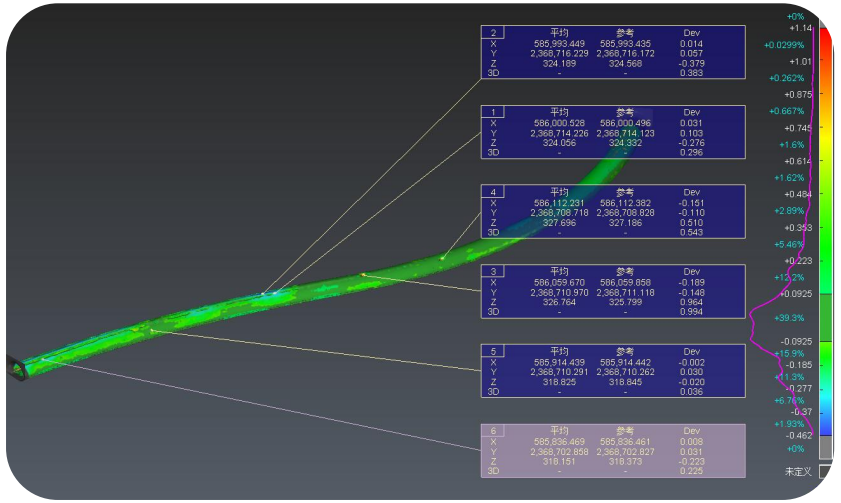
Tunnels can be scanned by scanning system, and the obtained point cloud data can be used to establish a 3D model for later analysis. For areas that were not scanned due to occlusion, fitting can be performed based on the curvature of existing data.



Mining Applications

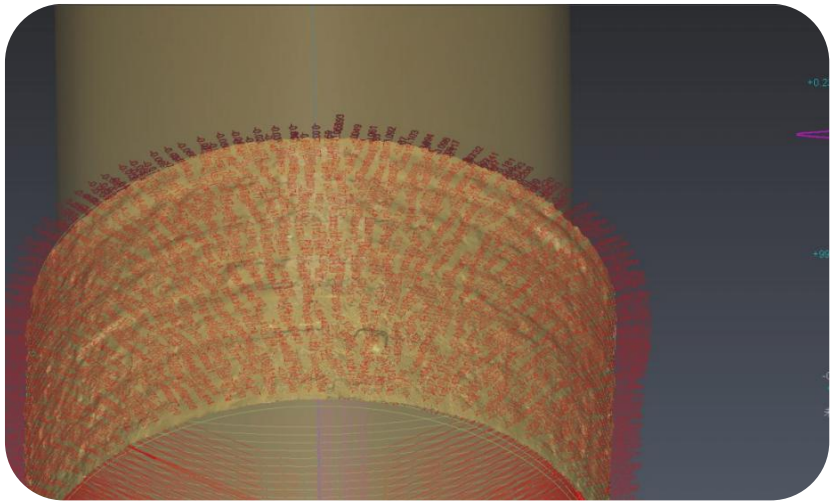
Axis extraction

The scanned data can be matched with the design model via coordinate methods, and by comparing the scanned model with the design model, the direction and status of the construction tunnel can be analyzed.



Contrast Detection

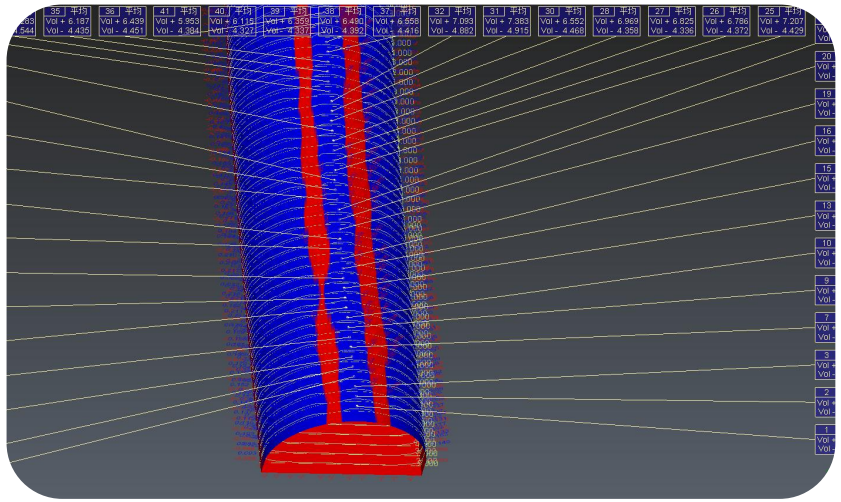
If the design axis and cross-section can be obtained, the software can obtain the design model via lofting, and then use the scanning status to compare and detect with the design model.



Mining Applications

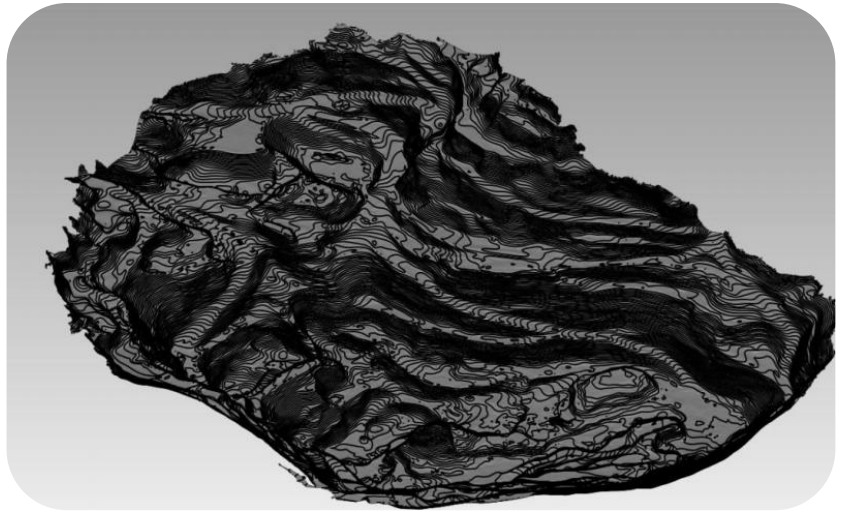
Over-Nnder-Excavated Values

After obtaining the data, it can be compared with the design model. Based on the obtained over excavation and under excavation data, it can be compared at any time to correct the construction data and stop losses in time.



Generating Contours for 3D Models

For the overall 3D digitization of mines, SLAM can also be directly used for scanning. After obtaining the overall model, contour lines can be generated for the model and imported into CAD.

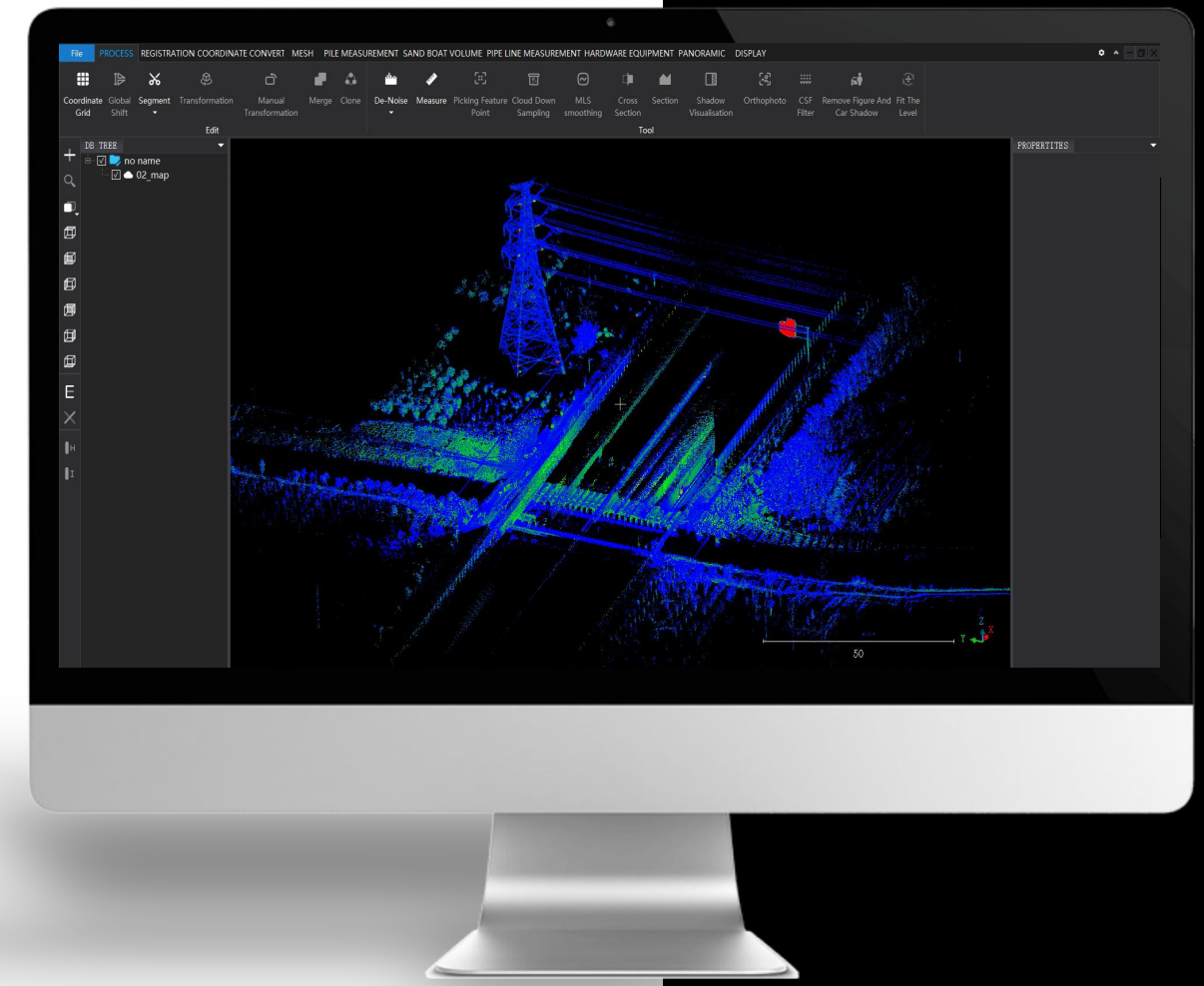


Software

LidarWorks

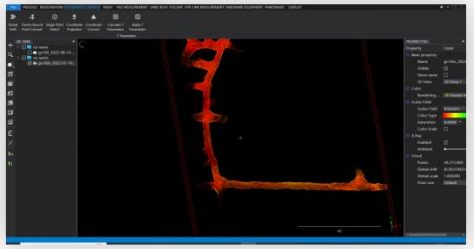
LidarWorks is a powerful point cloud post-processing software that supports full range of mobile 3D laser scanning systems.

- Working with the scanner function, it can support downloading and archiving point cloud data through network as well as matching anchor control points;
- Support universal point cloud editing and browsing functions which can perform measurement, noise reduction, cropping, merging, coordinate conversion, rotation and offset work on point clouds as well as conventional processing functions such as format conversion and docking with third-party applications;
- At the same time, it also has functions such as automatically point cloud stitching, Mesh model encapsulation, model optimization processing, point cloud volume measurement, point cloud classification, one click removal of moving objects, seven parameter conversion, contour lines and orthophoto images.It can provide industry customized developing functions.

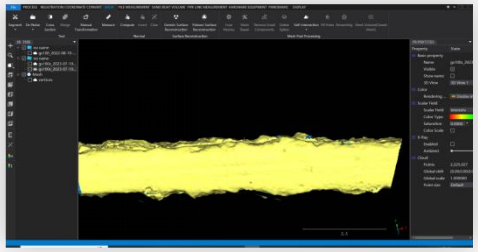


Software

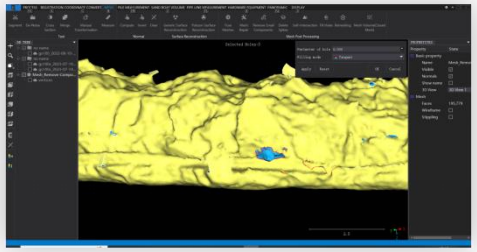
LidarWorks has eight basic functions: one click denoising, merging, shadow rendering, coordinate conversion, automatic fitting of horizontal planes, automatic generation of point cloud data reports, orthophoto images and point cloud encapsulation. Specifically adds a one click stack data generation function for stack volume measurement, making data acquisition more convenient.



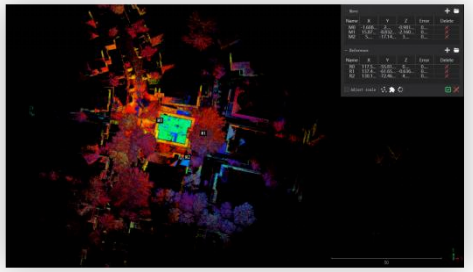
X-Ray Display Mode



Mesh Model Encapsulation



Fill Holes



Fast Split Joint

Parameter

Protection class	Class I	**Laser Lines**	16 lines	**Laser Sensor**	1
Range	120m	**Scanning Speed**	320,000/Sec	**FOV**	360°×280°
Explosion proof	Intrinsic Safety	**Scanning positioning**	SLAM	**Accuracy**	1cm (Highest)
Working Time	4H	**Operation Temperature**	-20~50℃	**Status**	LED Screen
Weight	1.95KG	**SSD**	512G (Expandable)	**Operation**	Button
Housing： Imported Nylon Material					

Contact us

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