

GENERAL				
Series	AcuteLas			
Model	SPL-1500 Pro	SPL-620 Pro	SPL-370 Pro	SPL-180
Scan range	0.6-1500m	0.6-620m	0.6-370m	0.6-180m
Real-time On-site Registration	Available	Available	Available	N/A
Type	pulsed precise scan technology			
TECHNICAL		PHYSICAL		
Scan FOV	360° (H) x 300° (V)	Dimension	247x107x202 mm	
Scan rate	2,000,000 pts/sec max.	Weight	4.85 kg (without battery); 5.3 kg (with battery)	
Relative Accuracy*	1.2mm @10m; 2mm @25m	Color	Purple grey, solid uncoated	
Angular Accuracy	0.001° (h/v)	LED Screen	5-inch HDR color touch display, 720x1280 dpi	
Scan Speed	80 Hz max.	Tripod Mount	Lightweight elevating camera tripod, 3-section, quick release	
Step Size	0.018° (20,480 pts 3D-pixel on 360° H./V.)	Inverse Mounting	Yes, downward up to 0.505 m by elevating tripod	
Fieldwork Control	Onboard touch screen or tablet remote via WLAN			
Fieldwork Reference	Approx.16 sec (scan only, fastest); 41 sec (scan + image, fastest)			
ONBOARD SENSORS		ELECTRICAL		
Laser Scanner Sensor	Class-1 eye-safe (in accordance with IEC 60825-1:2014)	Power Supply	Detachable battery unit (inside battery compartment) or external power supply	
Laser Wavelength	1550 nm, invisible	Power Consumption	40 W while scanning, typical	
Laser Divergence Angle	0.5 mrad	Battery Unit	Rechargeable Li-ion battery, 28.8V, 3400mah, 98Wh	
Initial Beam Diameter	3.6 mm	Battery Endurance	Approx. 4 to 4.5 hours per unit	
HDR Camera	Inbuilt 2 nos. Forward side and upward 45°	ENVIRONMENTAL		
Imaging Resolution	24.6 MP (12.3 MP x2) in total for one capture	Working Temperature	(-20°C to +60°C)	
Color Resolution	8 directions, 45° each, 196.8 MP (12.3 MP x8x2) in total for one round	Storage Temperature	(-35°C to +70°C)	
Dual-axis Compensator	Compensating range ±15°	Humidity Resistance	Non-condensing	
Height Sensor	To calculate the relative heights by inbuilt barometer and record in scan files	Ingress Protection	IP64 rating	
Temperature Sensor	To record the internal temperature of device realtime and keep it working within the right range	DATA MANAGEMENT		
Compass	To record the northing direction while scanning	Storage	USB 3.0 flash drive, 256 GB (upgradeable)	
GNSS	Integrated GPS (L1) & Beidou (B1)			
SOFTWARE		INTERFACING		
Remote control (Mobile)	AcuteLas Mobile	USB	3.0, inside battery compartment	
Remote control (Tablet)	AcuteLas Onsite	WLAN	802.11 b/g/n on board	
Pre-process	AcuteLas Studio	External Power Supply	18-24V DC, at bottom ring of the device	
SDK Option	Negotiable, based on project demand			
Note*: the accuracy performance here came from the good conditions based on factory standards while the actual performance might vary due to different environments (lighting, textures), reflectivity, weather (temperature, humidity), etc. And all specifications are subject to change without any prior notice.				



FEATURES



inbuilt GNSS module

GPS L1 + Beidou B1 tracking



scan FOV

horizontal 360°, vertical 300°



amazing point rate

up to 2,000,000 pts/sec



long measuring range

up to 1500 m



angular accuracy

horizontal 0.001°, vertical 0.001°



inbuilt camera

2 lens, 24.6 MP in total



multi-target detection

higher point density, suited to complex scenes



automatic leveling

easy and efficient setup



dual-axis compensator

range ±15°; accuracy ±0.008°



data storage

USB flash drive 256 GB



Wi-Fi access

tablet, smartphone or laptop



data communication

flash drive & USB 3.2 interfaces



battery endurance

4 hours, hand-carry by airplane



compact and lightweight

6kg only, goes with portable tripod

ILLUSTRATION

AcuteLas Series 3D laser scanner integrates years of technological expertise in optics, mechanics, and electronics. With its ultra-long measurement range, it easily handles various complex scenarios ranging from fine close-range details to grand long-range views. Coupled with extremely fast scanning capability, it captures complete details and rich information of objects in a short time. Millimeter-level measurement accuracy and integrated high-resolution dual cameras ensure the authenticity and reliability of every dataset while capturing true color. Paired with the self-developed AcuteLas Studio point cloud processing software, it achieves intelligent and efficient full-process operation from data acquisition to processing, committed to providing reliable and efficient 3D data acquisition solutions for multiple industries.

Highlights

Full Coverage, Precision Restored

Ranging options of 1500m / 620m / 180m enable full-scenario coverage, while millimeter-level accuracy ensures precise 3D reconstruction.



True Color, Captured in an Instant

Built-in dual 12.3 MP ultra-HD cameras rapidly acquire full-color scene information, delivering exceptional color fidelity and capturing every on-site detail with stunning clarity.



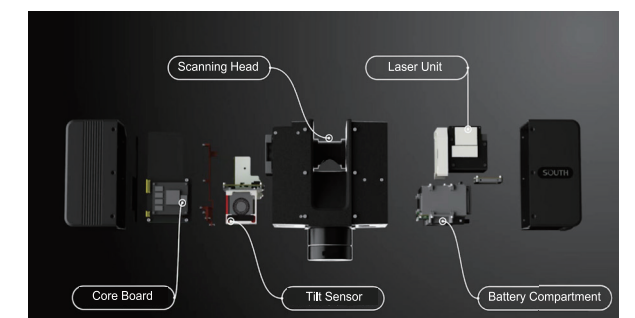
High-Speed Scanning, Multiplied Efficiency

As fast as 16 seconds per station (fastest mode), significantly improving field efficiency.



Multi-Sensor Empowerment, Precision Operation

Integrated dual-axis compensator, GNSS, electronic compass, height sensor, temperature sensor, and more — real-time monitoring of device status ensures highly accurate field data.



Lightweight & Portable, Flexible Operation

Highly integrated, compact design — main unit weighs only 4.85 kg, easy to carry and transport. Built-in dual-axis compensation — no manual leveling required. Scan on arrival, operate with ease.



REALTIME REGISTRATION

Start



Field Scene



Scanning Start at Station 1

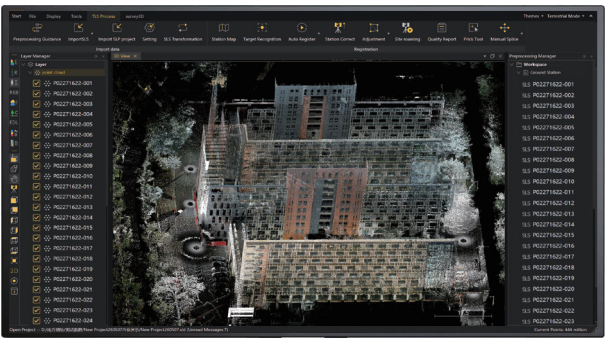
On-site Scanning for 1h



Scanning Completed at Station 60



Data Display on Tablet



Data Display on PC

Paired with the dedicated AcuteLasField real-time registration software, the entire scanning process can be remotely controlled via an industrial-grade tablet, with real-time visualization of scan data. Registration and alignment are completed simultaneously. It supports one-click fine registration for full-station data, as well as manual adjustment and optimization as needed. The 3D point cloud results are instantly visible, intuitive, and controllable.

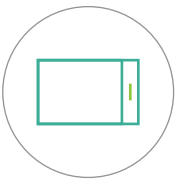
SOFTWARE HIGHLIGHTS

The AcuteLas series comes standard with AcuteLas Studio software, offering guided full-process data processing for clearer workflow organization and preventing missed steps.



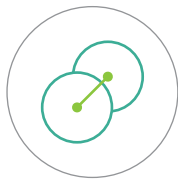
Raw Data Registration

Import raw scan data, perform automatic registration, with manual adjustment supported



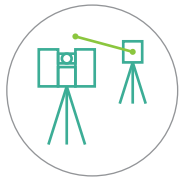
Real-time Registration Result Import

Import results generated by the field processing software, automatically identifying the result type



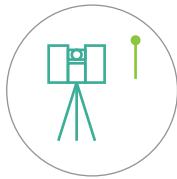
Sphere Target Registration

Import data containing sphere targets, perform automatic target recognition followed by manual editing



Tunnel Backsight Orientation

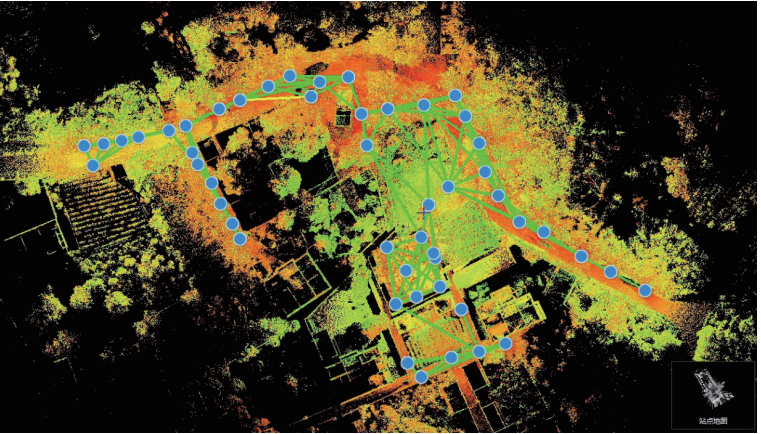
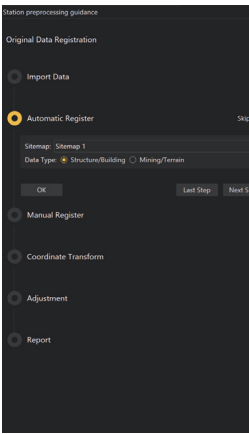
Import tunnel backsight orientation data, set parameters, and generate a registration report



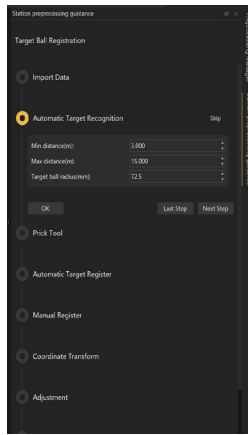
Station Correction

Import scan data with prism spheres, correct station position by picking points and using total station coordinate data

Automatic Registration



Automatic Target Recognition



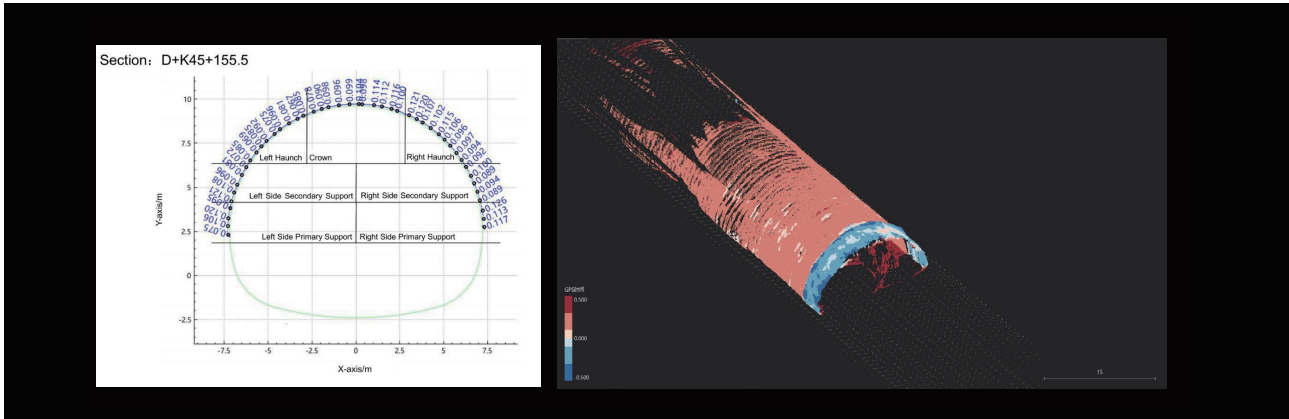
Point Name	Station	Point type	Source X	Source Y	Source Z	Target E	Target N	Target H
2	P1011-002	Control point	2.5950	6.2102	-0.8505	2.9950	6.2102	-0.8505
3	P1011-002	Control point	2.2857	9.0747	-0.9999	2.2857	9.0747	-0.9899
4	P1011-002	Control point	-0.5555	4.7446	-0.9787	4.5555	4.7446	-0.9787
4	P1012-010	Control point	3.4947	1.6579	1.1964	3.4947	1.6579	1.1964

on Target Import Target Point Export point data Delete Clear Detail Report Apply

INDUSTRIAL APPLCATIONS

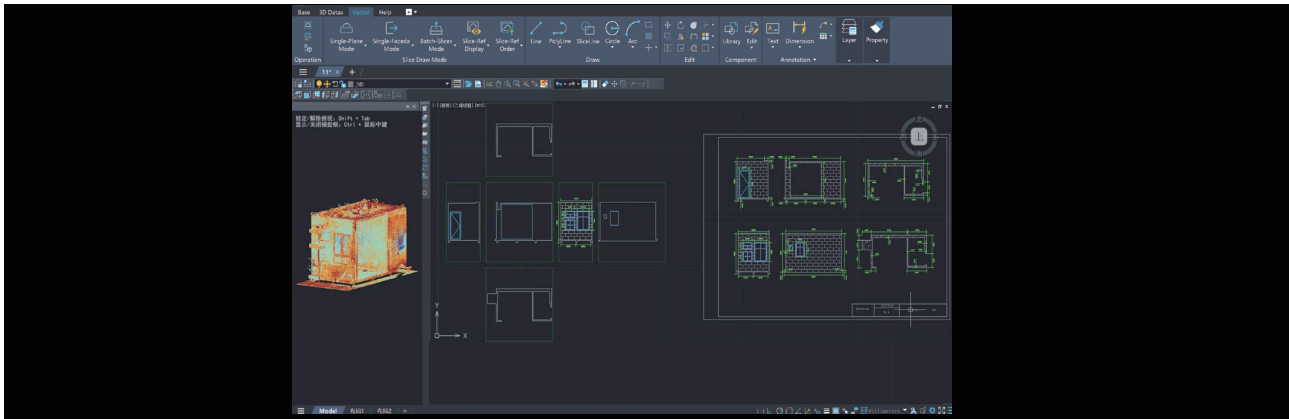
Tunnel

Supports overbreak & underbreak analysis, cross-section diagrams, centerline visualization, and more. Capable of generating and exporting centerline analysis reports, ovality analysis reports, and two-epoch point cloud monitoring reports.



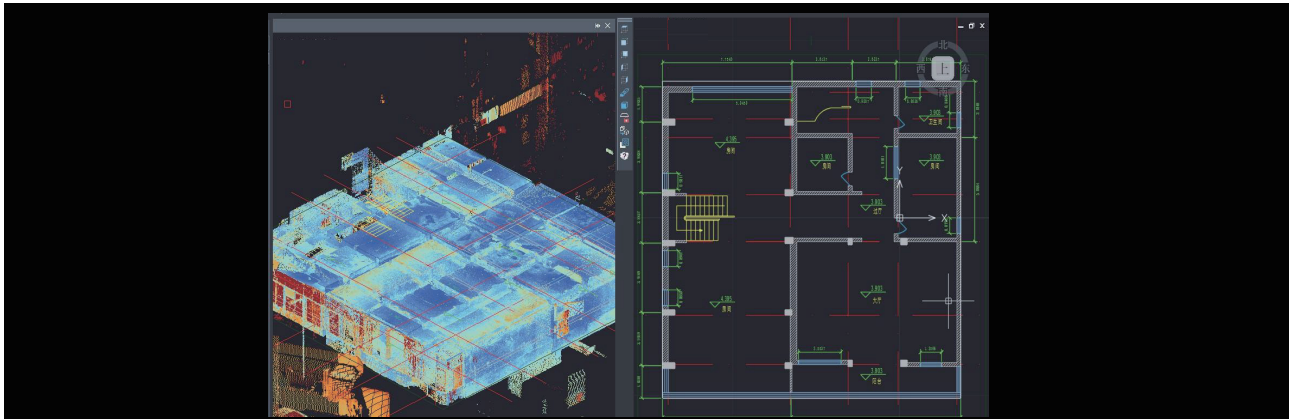
Building Mapping

Provides basic point cloud processing, slice vector extraction, vector drawing and editing, component insertion, dimensioning, and more. Built-in drawing properties panel and slice drawing mode enable rapid generation of floor plans, elevations, and sections based on point cloud model data.

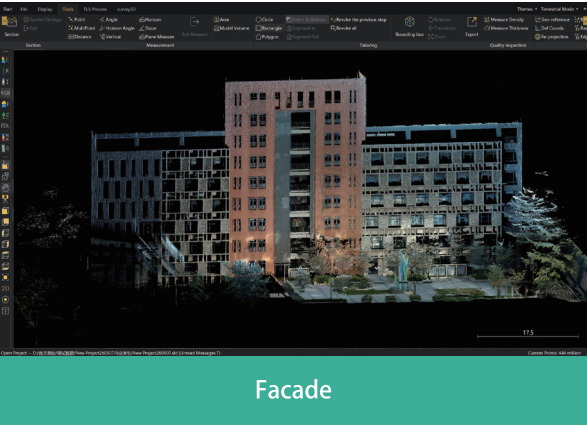


As-Built Surveying

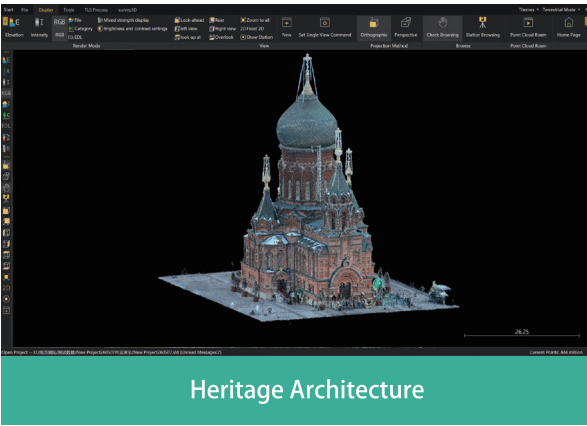
Segments all walls (including ceiling and floor) of a room based on point cloud data. Supports single-space wall merging calculation, whole-room wall merging calculation, and whole-room wall leveling calculation. Capable of generating repair reports and producing squared wall results.



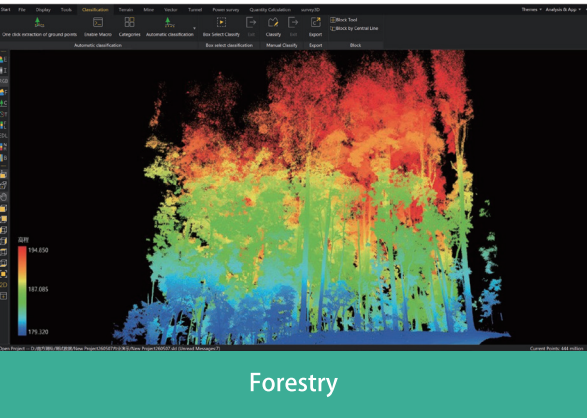
OUTPUT SAMPLES



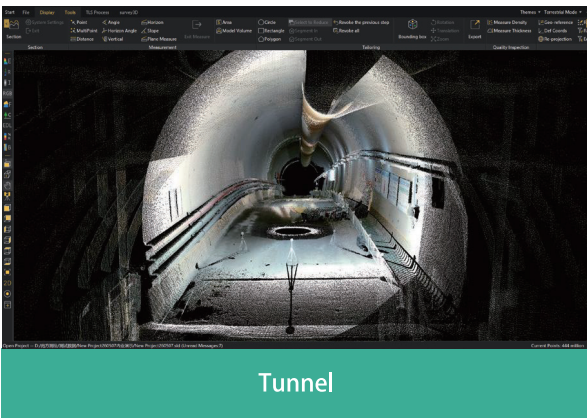
Facade



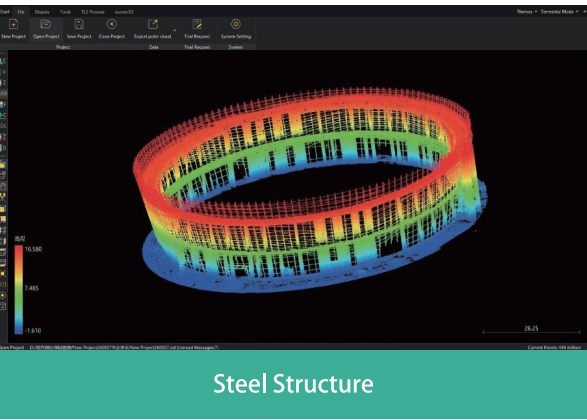
Heritage Architecture



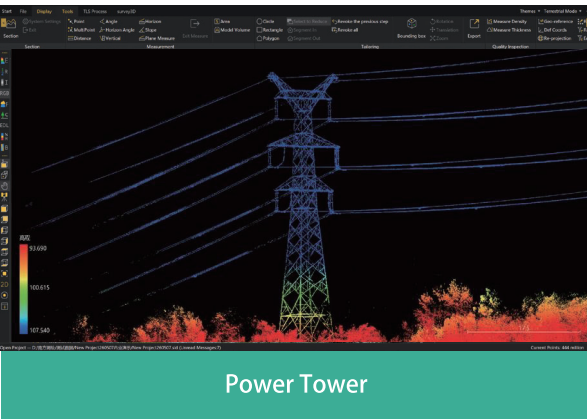
Forestry



Tunnel



Steel Structure



Power Tower