

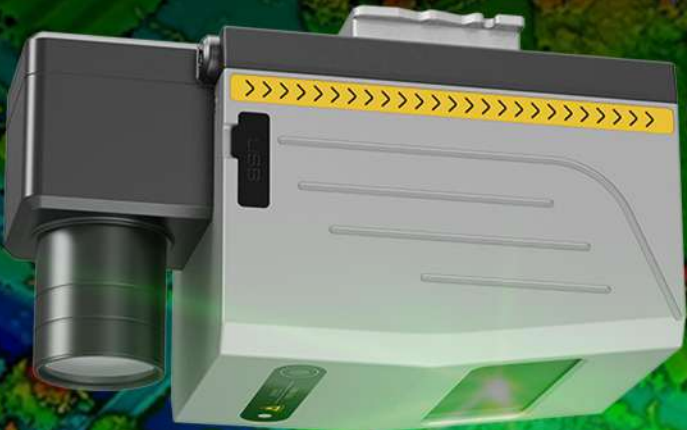
Specification

General	product name	SA130
	dimensions	164*102*138.3 mm
	weight	2 kg
	supported aircraft	SOUTH SF1200/SF3300/SF4200 Matrice 300 RTK/350 RTK
	working temperature	-20℃~+55℃
System Performance	IP	IP64
	system accuracy	5 cm@300 m (Horizontal/Vertical)
	storage	256 G Flash Drive Disk
	control mode	auto control by Ground control station or remote control by Laptop/ Mobile phone APP
LiDAR	laser scanner	400 scan-line
	principle	pulse
	maximum measuring range	1500 m
	minimum detection range	1 m
	measuring accuracy	15 mm(single)/ 5 mm(repeat)
	measurement rate	max.2000,000 points/s
	scanning FOV	100°
	laser safety class	Class 1 (IEC 60825-1: 2014) eye-safe
	angular resolution	0.001°
	laser wavelength	1550 nm
	echo	multi-echo
Inertial Navigation System	posture	Roll/Pitch: 0.006°, Yaw: 0.019°
	positioning accuracy	horizontal: 0.01 m; vertical: 0.02 m
	IMU Update Frequency	500 Hz
RGB Mapping Camera	resolution	45 MP
	focal length	18 mm
	sensor size	36*24 mm(8192*5460)
	pixel size	4.4 μm
	photo format	JPEG
	video format	MP4
	Data collection software(GCS)	Fly2MAP Pilot
Trajectory processing software		AcuteLas Studio software
LiDAR data post-processing software		AcuteLas Studio software



High-Precision Aerial LiDAR System

SA130

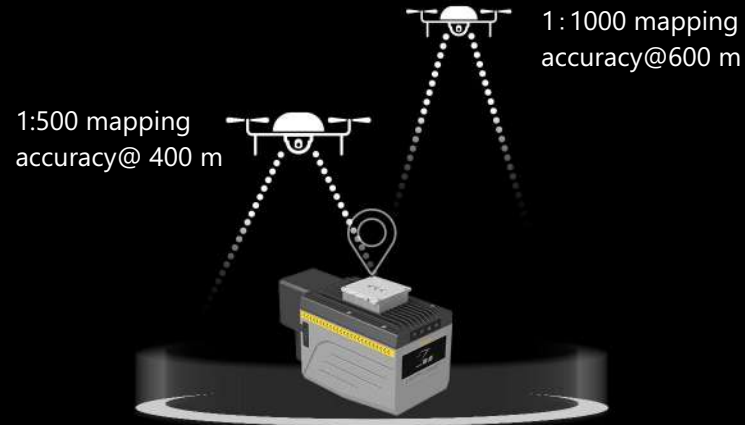


SOUTH
Target your success

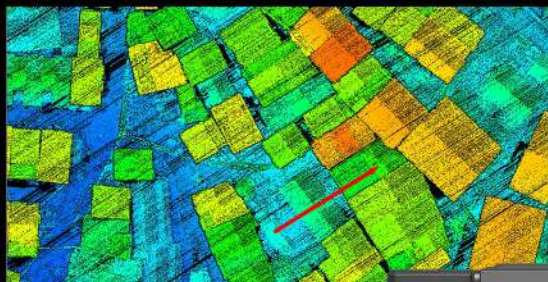
SOUTH SURVEYING & MAPPING TECHNOLOGY CO., LTD.
Add: South Geo-information Industrial Park, No.39 Si Cheng Rd, Guangzhou, China
Tel: +86-20-23380888 Fax: +86-20-23380800
E-mail: mail@southsurvey.com export@southsurvey.com
http://www.southinstrument.com

SOUTH
Target your success

● System accuracy achieves 5 cm@ 300 m



● Measuring range maximum reaches up to 1500 m



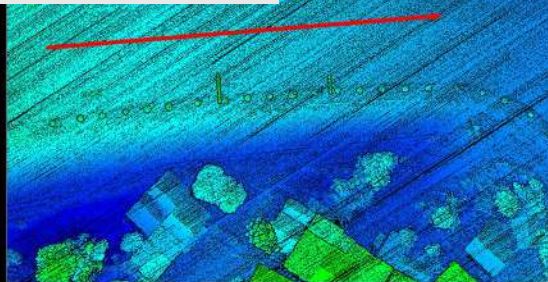
flight trips mosaic result@300 m

Control report - F:\TTX\XKD-B4.txt

Use	Number	Easting	Northing	Known Z	Laser Z	Dz
☒	XK21	584797.19	3231503.77	128.891	128.969	+0.078
☒	XK24	587281.86	3231999.14	128.271	128.334	+0.063
☒	XK19	583470.66	3230589.96	129.853	129.896	+0.043
☒	XK23	586475.61	3232183.34	129.930	129.972	+0.042
☒	XK22	585415.74	3232200.25	127.549	127.552	+0.003
☒	XK17	582786.23	3229542.42	132.213	132.210	-0.003
☒	XK18	582884.95	3230192.12	129.937	129.925	-0.012
☒	XK20	584098.20	3230652.11	129.590	129.575	-0.015
☐	XK1	574626.83	3219262.61	137.694	-	outside
☐	XK10	578752.70	3225578.78	132.849	-	outside
☐	XK11	579003.56	3226025.09	116.398	-	outside

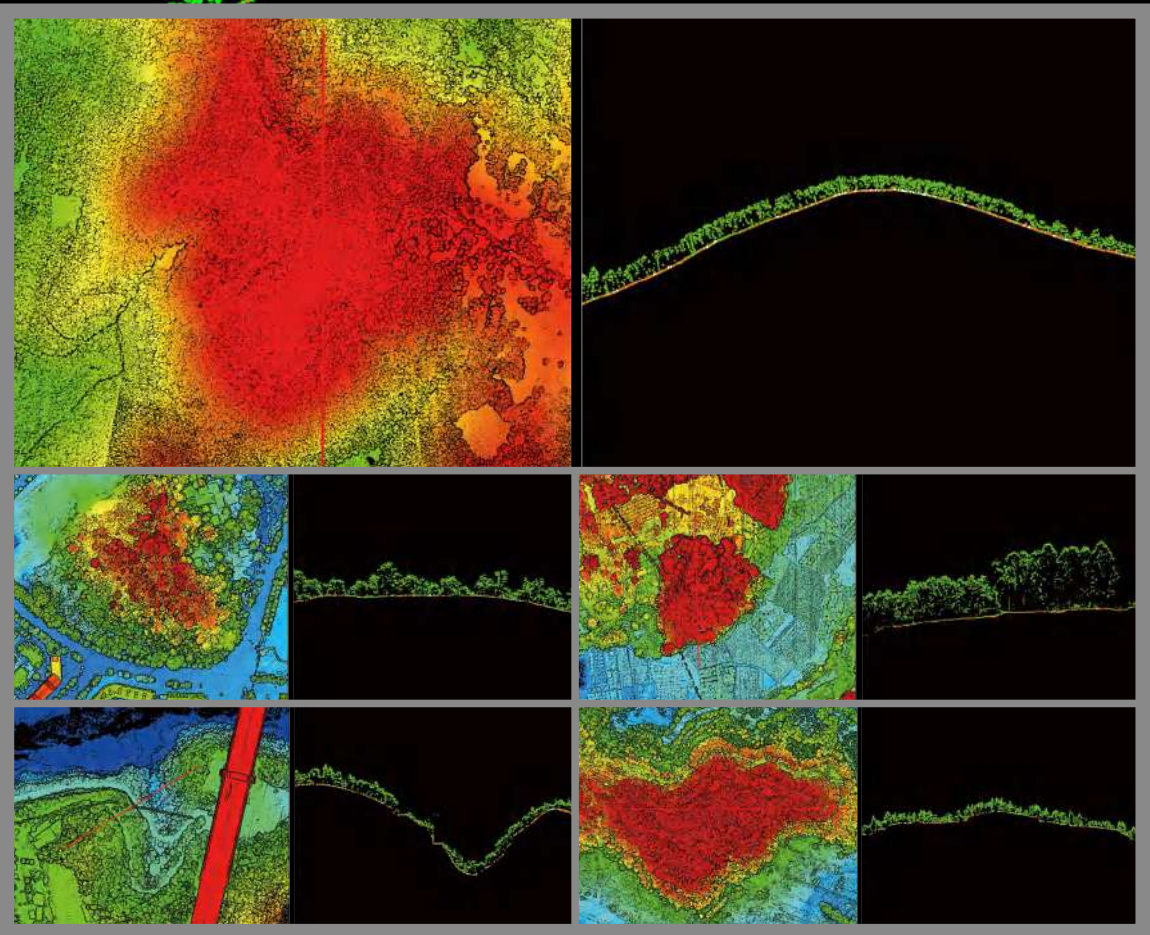
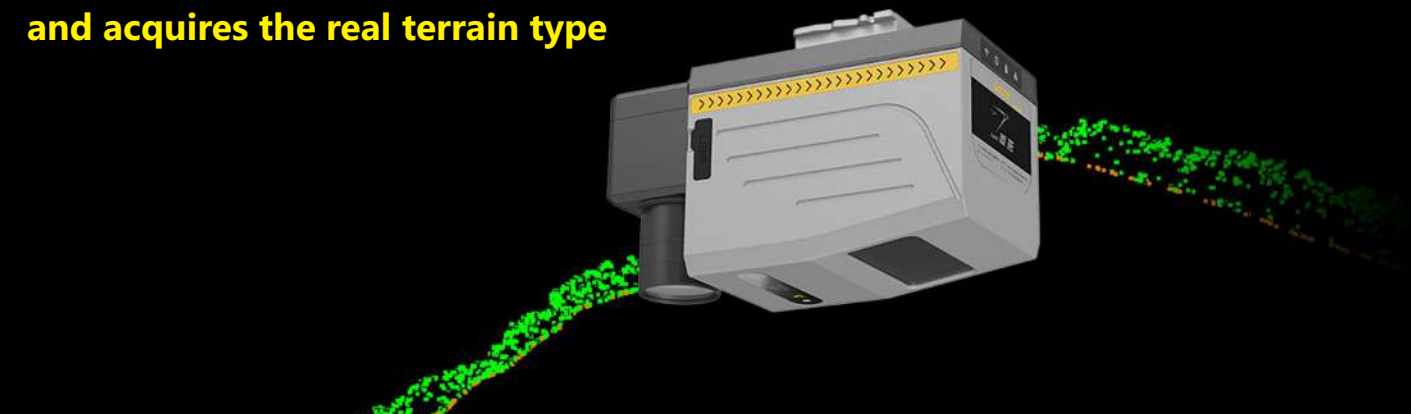
Average magnitude 0.0324 Average dz +0.0249
Std deviation 0.0361 Minimum dz -0.0150
Root mean square 0.0419 Maximum dz +0.0780

Show location Identify



ground point cloud thickness reaches 5 cm on hard surface@300 m

● Multi-echo penetrates the vegetation and acquires the real terrain type



● Platforms



SOUTH fixed wing SF4200-150 min



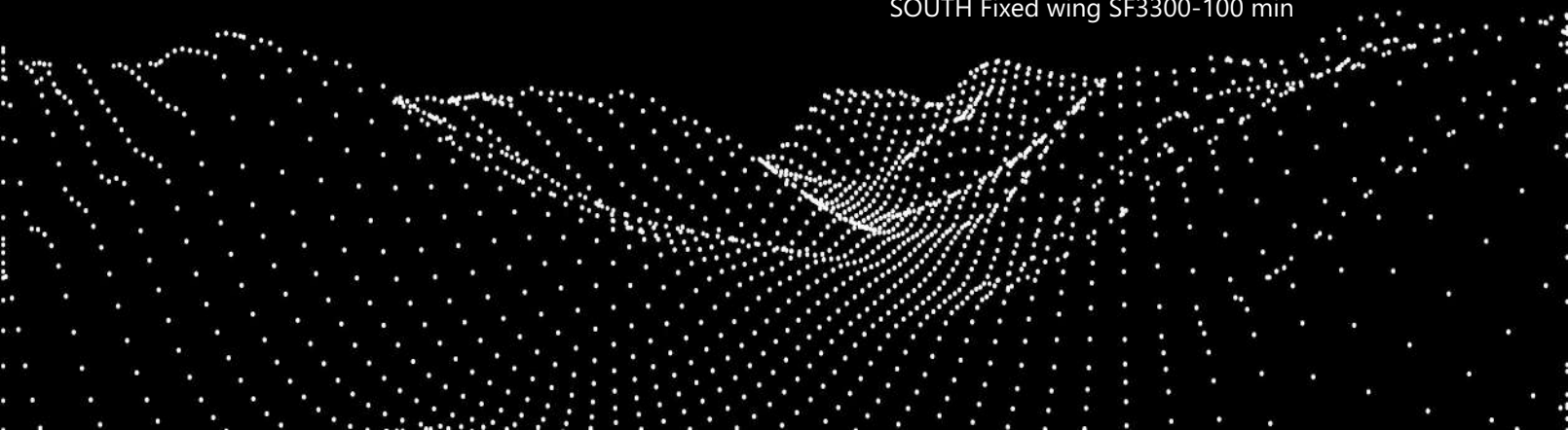
SOUTH Quadcopter SF1200-50 min



DJI M300/M350 RTK-about 25 min

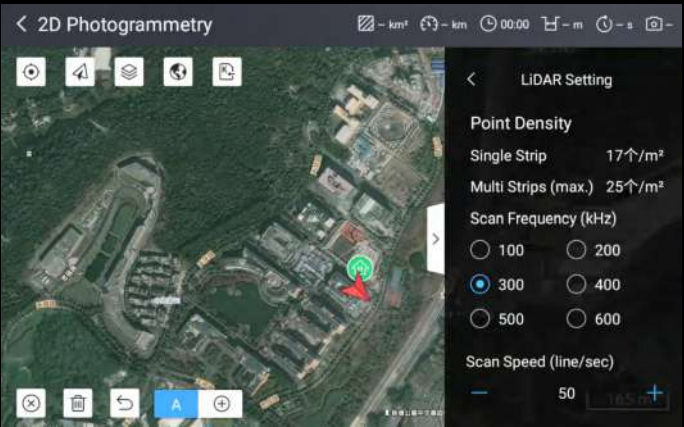


SOUTH Fixed wing SF3300-100 min

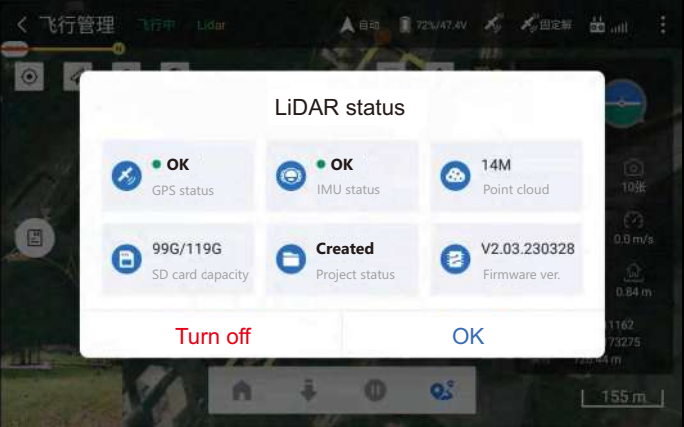


● On-stop field work control with UAV Flight Control Software Fly2Map Pilot

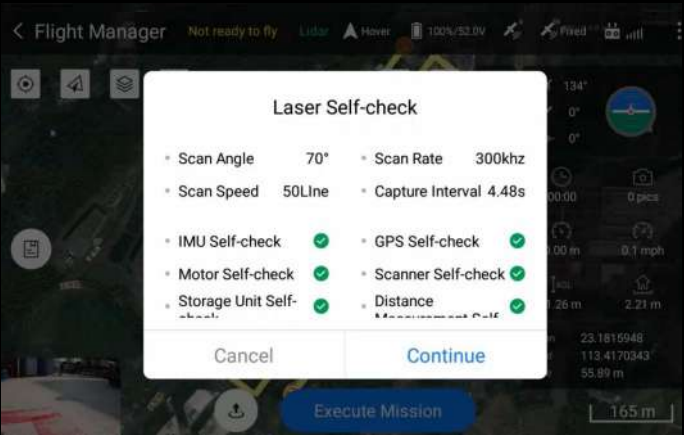
Highly integrated flight platform-Fly2Map Pilot is ready to set flight parameters, camera parameters and LiDAR parameters at the same time, no more laptop for LiDAR control.



a. UAV and LiDAR setting all in one RC



b. realtime monitor and control LiDAR status on GCS

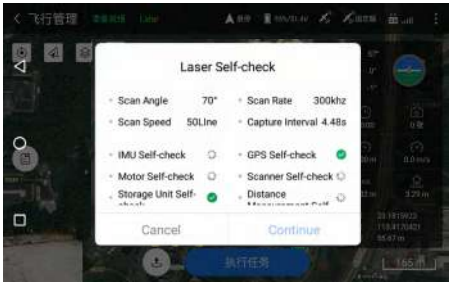


c. LiDAR self-check and IMU initializing on GCS(no need 8-shape check).

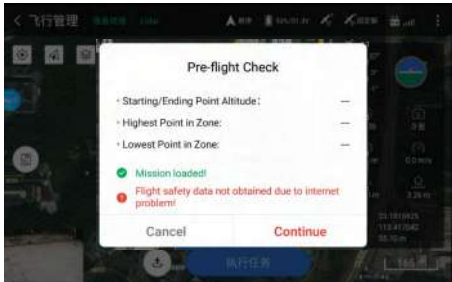


● Drone SF1200

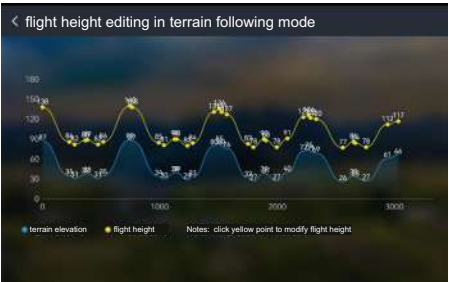
SOUTH Quadcopter SF1200 has long induration time, obstacle avoidance, and terrain-following functions, it realizes the integrated control of drone and LiDAR, one-key to take off and don't need laptops to control or set LiDAR parameters any more before take off.



Integrated control of drone and LiDAR



One-key to fly



Terrain following available



Portable transport case



Wireless realtime video transmission



Smart Charging Hub

Drone SF1200 parameter

Diagonal wheelbase	1.15 m(±0.01 m)	Wind resistance	Beaufort scale 5
Dimension	Packing size: 570*520*260 mm Unfold size: 920*920*440 mm	Radio datalink range	10 km
Takeoff weight(w/o payload)	12 kg	Positioning accuracy	H: ±1 cm+1 ppm V: ±2 cm+1 ppm
Maximum payload	4 kg	Differential mode	RTK/PPK
Duration time	60 min w/o payload; 50 min with 3 kg payload	Working temperature	-20°C~+50°C
Max. climbing speed	5 m/s	Payload type	RGB camera, 5-Lens camera, LiDAR
Min. descending speed	5 m/s	Terrain following function	Available
Velocity	Max cruising 18 m/s	Obstacle avoidance	Forward 40 m, millimeter-wave radar detection
Maximum ceiling	>4500 m		

● **AcuteLas Studio Software**

AcuteLas Studio software is designed to process AcuteLas series aerial LiDAR system data and 3D laser scanner data, including the functions one-key trajectory processing and laser scanner/LiDAR data processing and fusion, point cloud data quality check, quality report output, coordinate system conversion, point cloud classification, topographic survey module, etc.

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• One Key Processing

AcuteLas studio is capable to process terrestrial scanner data, aerial lidar data, and it can process data in batches, that means several groups data can be imported at the same time and process together.

1- import several flights data

2- several flights POS data processing

3- flight strips division

4- several flight data fusion

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1- import several flights data

The screenshot shows the AcuteLas Studio software interface. A 'Welcome to USFACUTELAS STUDIO' dialog box is open, displaying a list of recently used projects. In the background, an 'Import' dialog box is visible, showing a file explorer with several .las files selected for import. The interface includes a menu bar with options like File, View, Tools, and Help, and a toolbar with icons for various functions.

2- several flights POS data processing

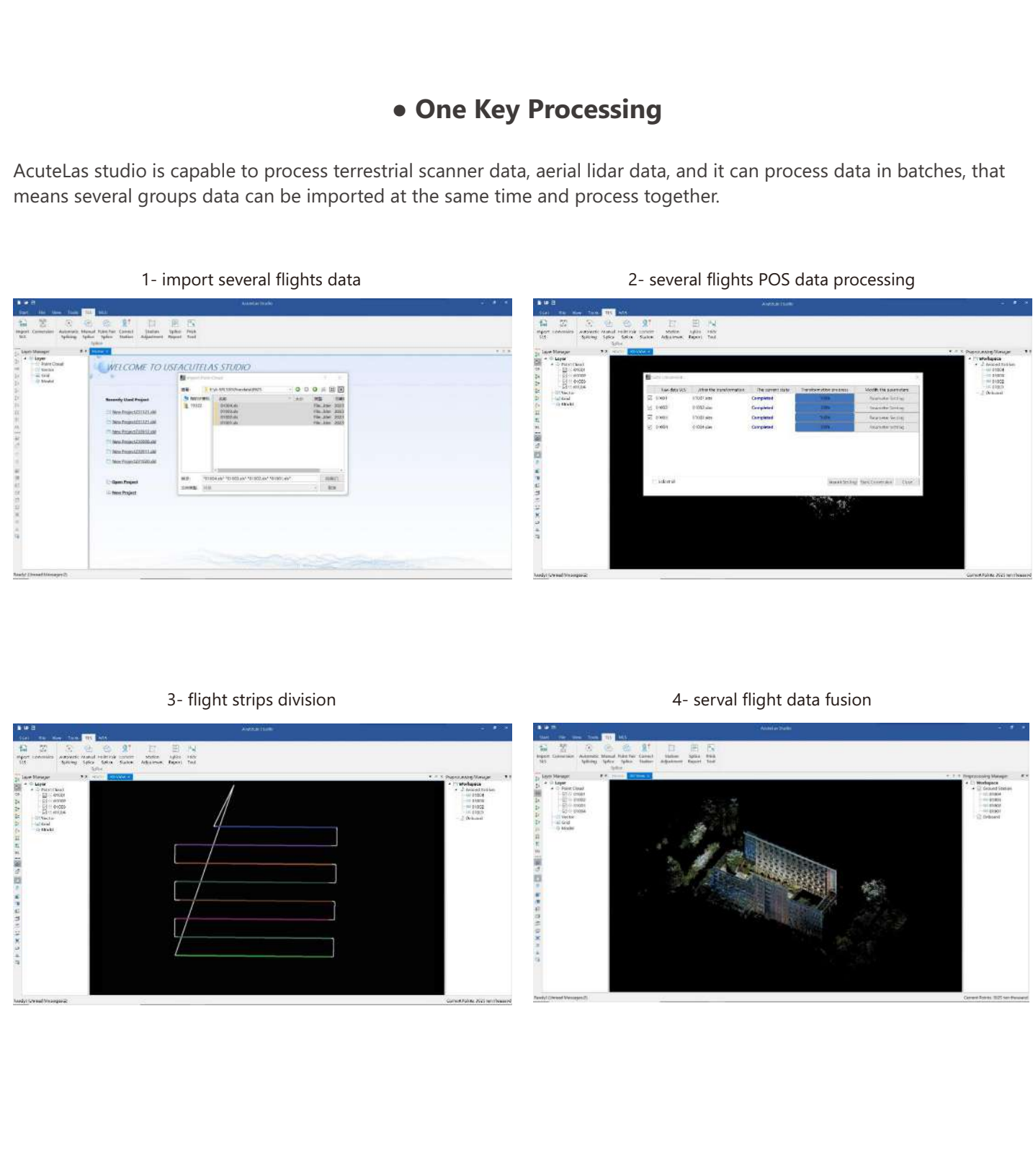
The screenshot shows the AcuteLas Studio software interface. A 'Batch Processing' dialog box is open, displaying a table with columns for 'Scan Area (m²)', 'Area for the implementation', 'The current state', 'Transformation process', and 'Modify the parameters'. The table lists several scan areas, all of which are marked as 'Completed'. The interface includes a menu bar with options like File, View, Tools, and Help, and a toolbar with icons for various functions.

3- flight strips division

The screenshot shows the AcuteLas Studio software interface. A 'Strip Division' dialog box is open, displaying a 3D visualization of a flight strip. The strip is divided into several segments, each represented by a different color. The interface includes a menu bar with options like File, View, Tools, and Help, and a toolbar with icons for various functions.

4- several flight data fusion

The screenshot shows the AcuteLas Studio software interface. A 'Data Fusion' dialog box is open, displaying a 3D visualization of a flight strip. The strip is divided into several segments, each represented by a different color. The interface includes a menu bar with options like File, View, Tools, and Help, and a toolbar with icons for various functions.



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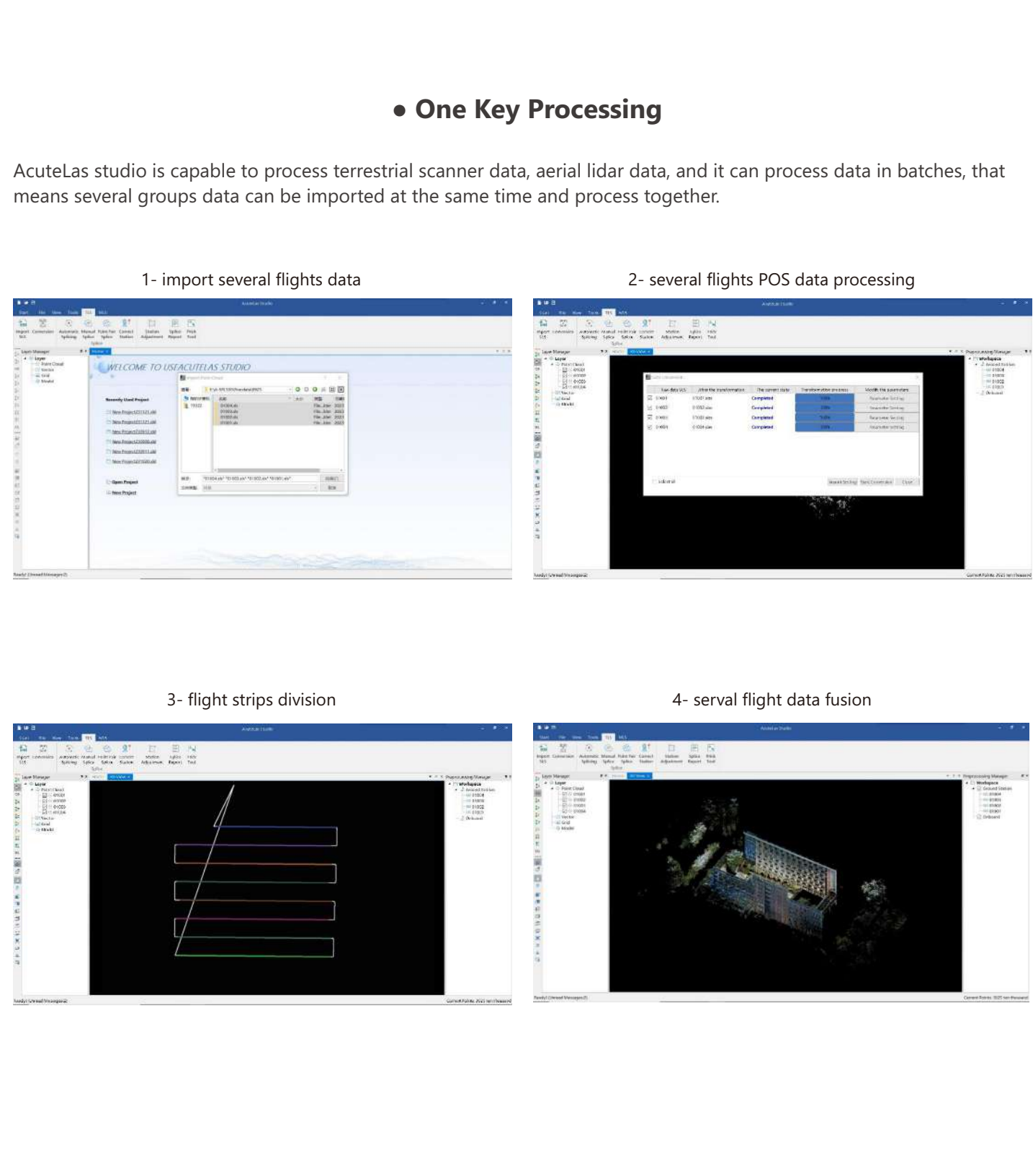
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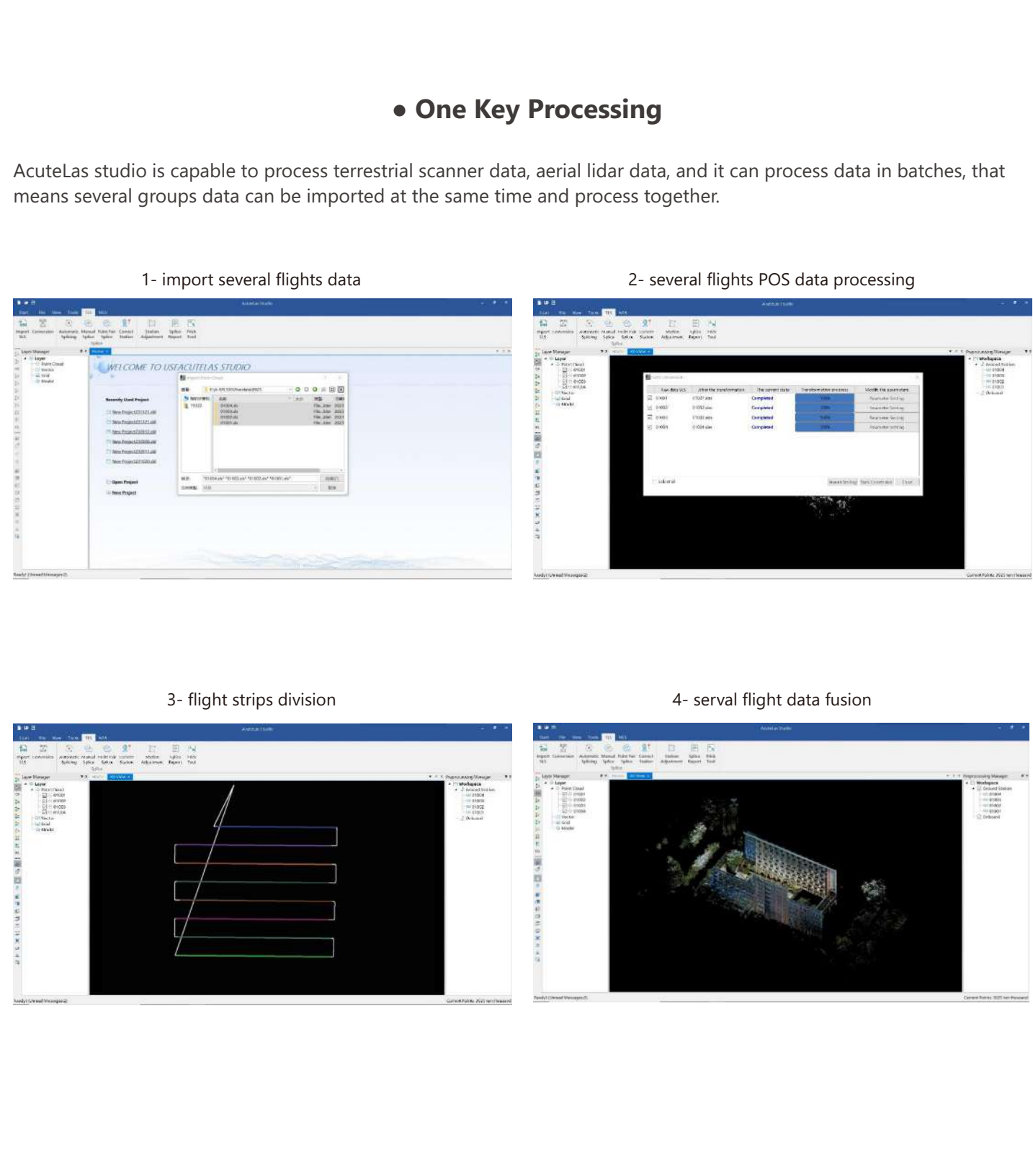
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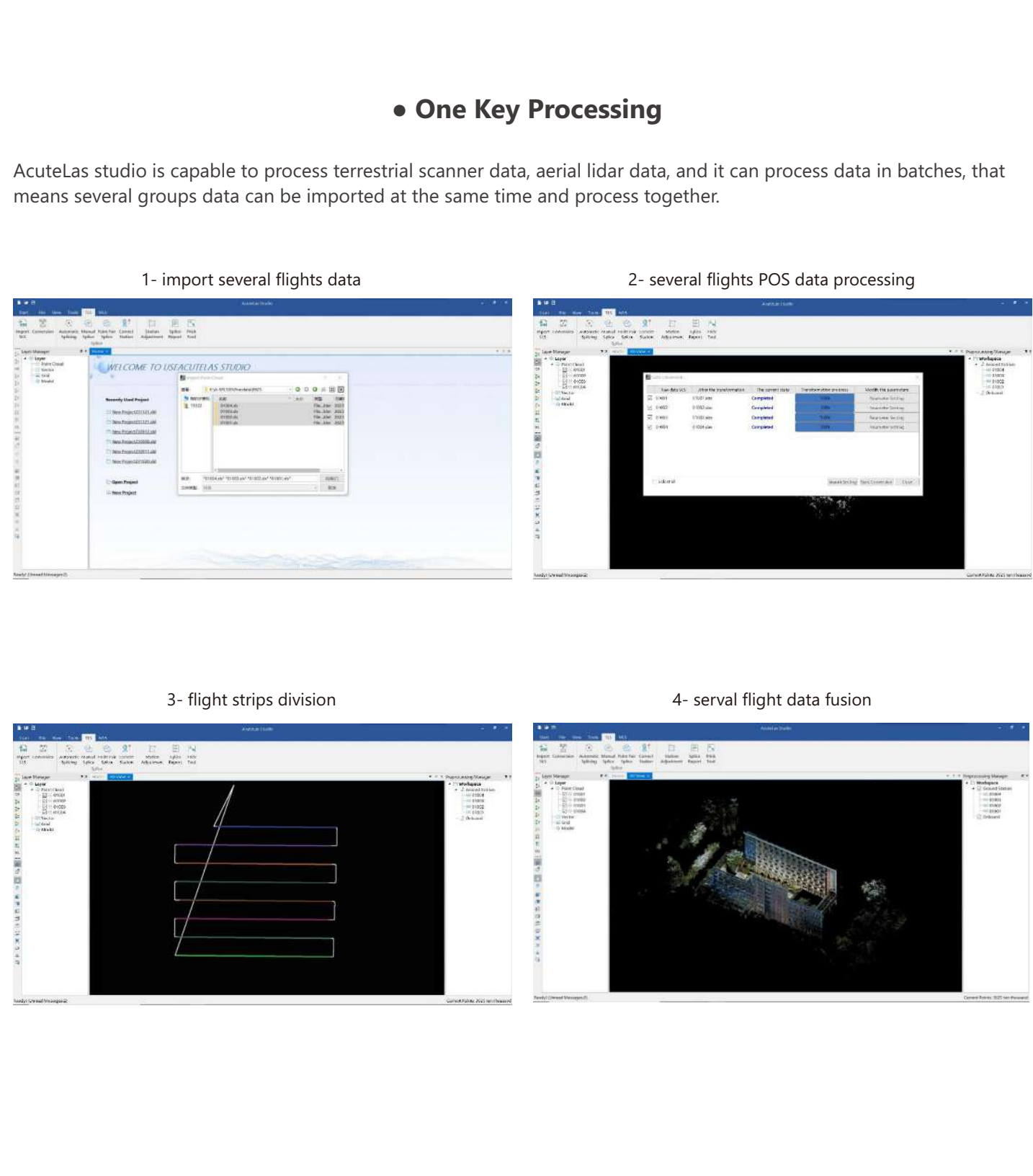
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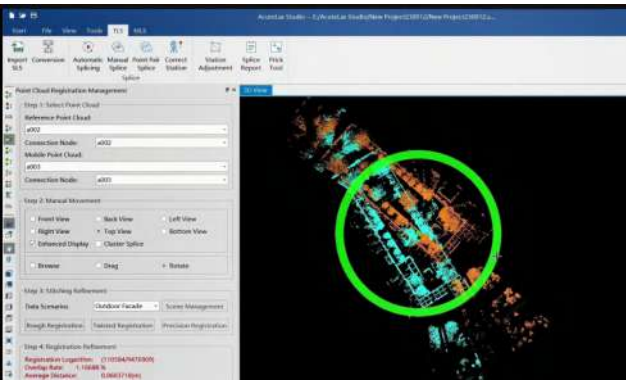
Data Pre-process

Support to process TLS data /MMS data.



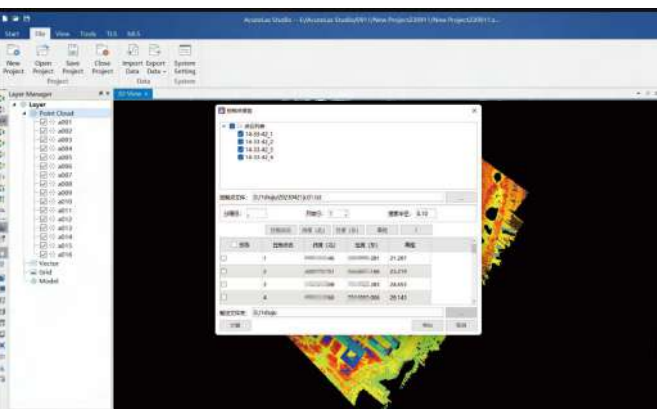
Automatically and manually Global Registration

Support to precisely register TLS data and MMS data manually or automatically.



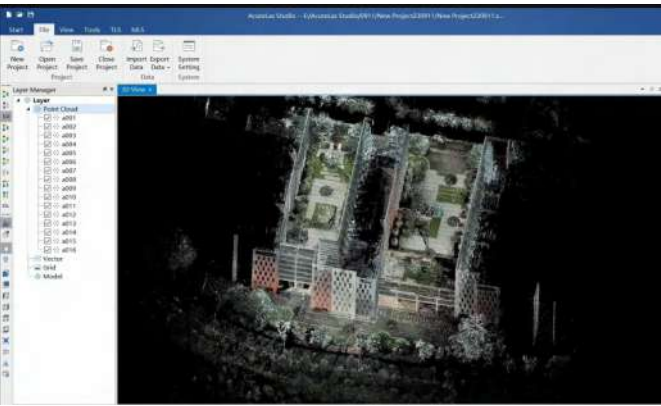
Point cloud quality verification report

Support to verify the point cloud accuracy, output verification report.



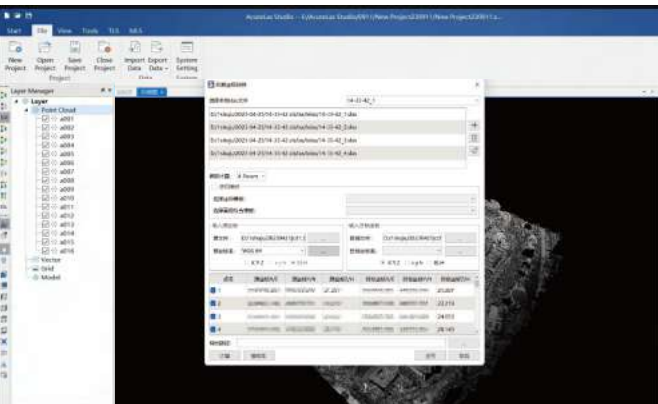
Point cloud rendering and display

Support to render the point cloud by elevation, color, intensity, class, time, etc. and display the point cloud in section view.



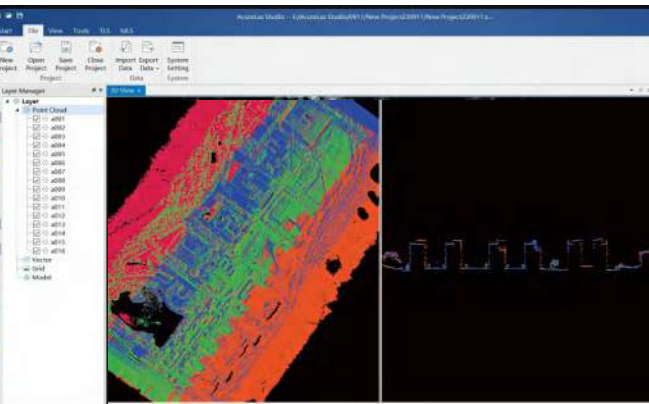
Coordinate system transformation

Support to convert coordinates with different methods.



Point cloud correction

Support to adjust the trajectory and point cloud.



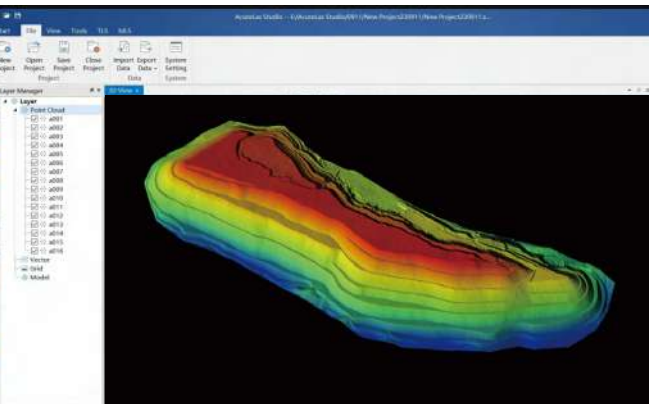
Point cloud classification

Support to classify point cloud manually or automatically.



Topographic surveying module

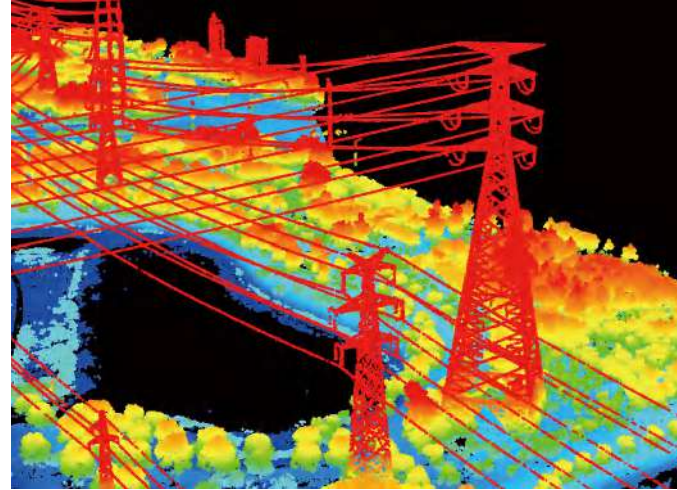
Support to generate DEM/DSM, one key to extract contours or elevation points.



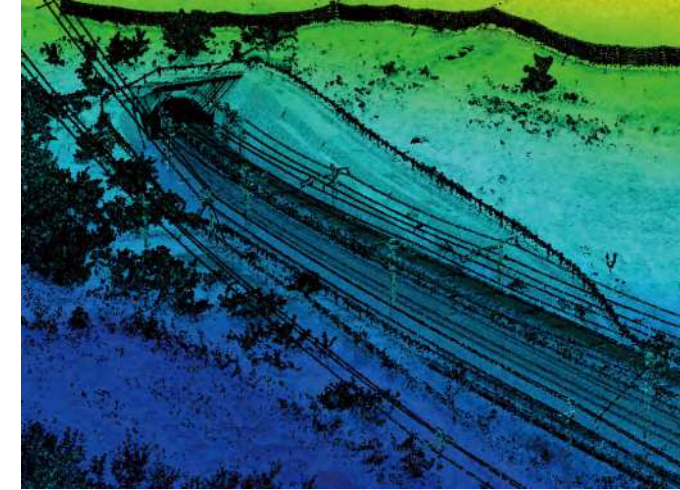
- Applications



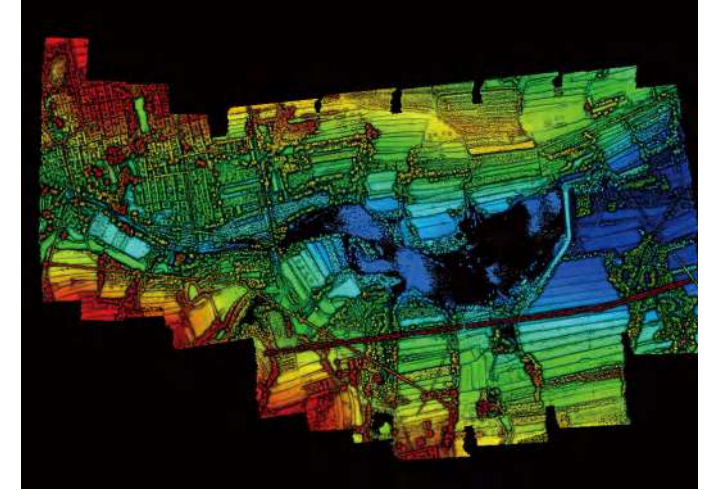
traffics management



powerline inspection



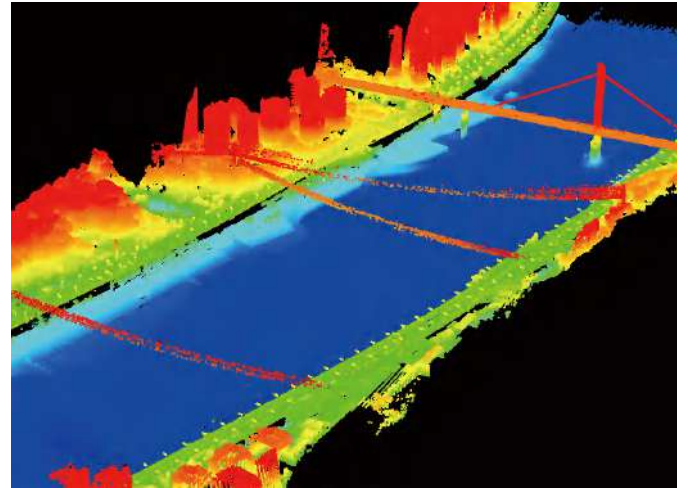
railway inspection



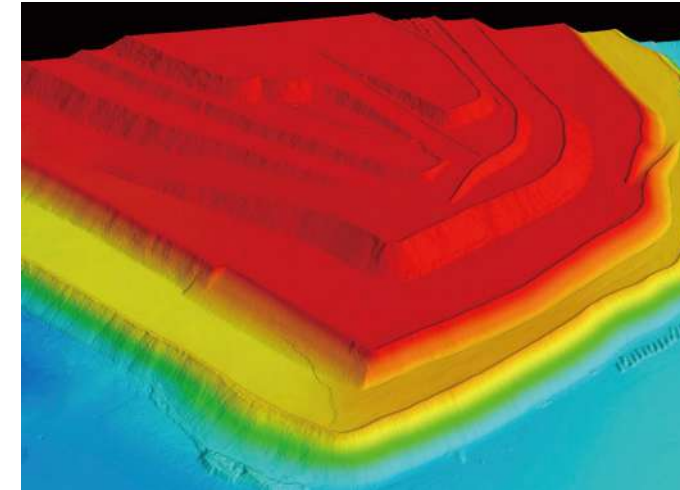
topographic surveying



city planning



river surveying



mine surveying



digital tourism