

R-Angle Mobile LiDAR

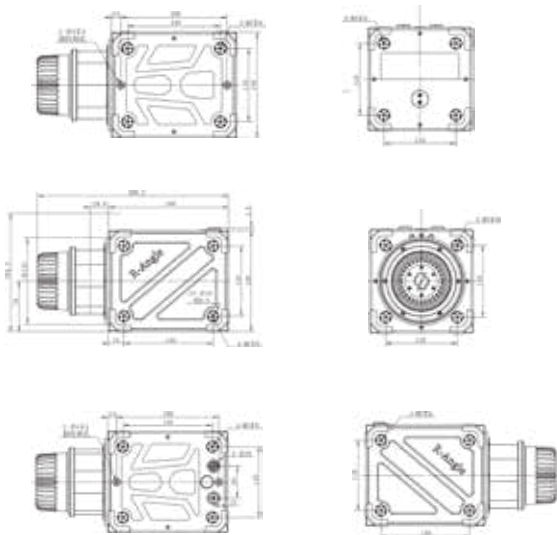
R-Angle mobile LiDAR can be installed onto vehicles, boats and other moving platforms.


R-Angle is featured with long range, high precision, small size and light weight. R-Angle include 3 models with maximum range, i.e. RA-0500, RA-1000, RA-1500.


R-Angle provides integration interfaces for various IMUs and Camera.





Structure





 Long range, max1500m


 Flexible integration
Various IMUs, GPS and camera

 Highly integrated
High-precision GPS

 Light weight
~5 kg

 High accuracy
3-5mm @50m

 Working temperature
-20°C ~ 65°C

 Fast measurement
200 L/S, 3000 P/L

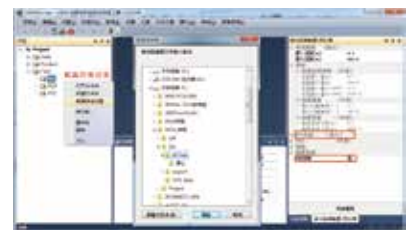
 Full FOV
360°FOV

Software Package

The software package is provided along with R-Angle scanners for various functions, including route planning, system controlling and monitoring, real-time display of point cloud, and data pre-processing. We also provide SDK for 2nd development.



Operating Software



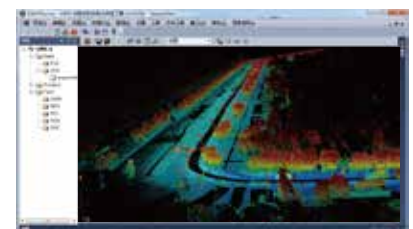
Data Solving Software



Vehicle trajectory software display



Point Cloud



System Integation

Applications

- Measurement of transportation and power facilities
- 3D data collection of digital cities
- Land survey
- River survey
- Data collection for 3D navigation map
- Mined area measurement
- Railway track inspection
- High resolution street view

System Configuration



R-Angle Laser Scanner

IMU

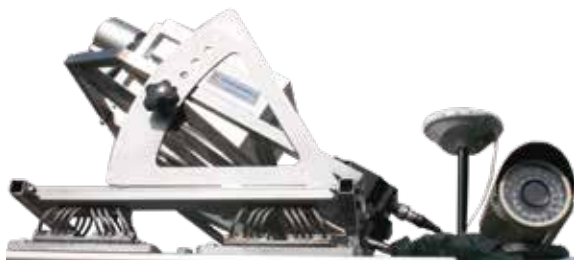
System controlling computer

High-resolution digital camera

GPS

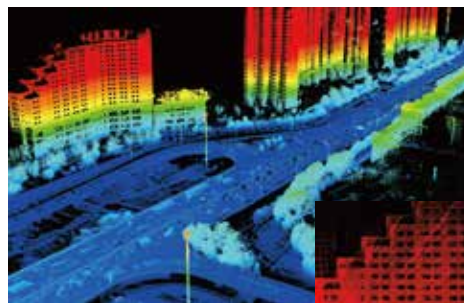


R-Angle is flexible for integration. Two scanners can be integrated when both side and front information of buildings are required. The scanner is able to give simple instructions for IMU and camera to initiate.



Long Range

Multiple echo mode is applied in R-Angle scanners to optimize vegetation survey. Maximum range reach 1200 m in natural environment. R-Angle scanners enable full information collection on high buildings in narrow city blocks full with skyscrapers.



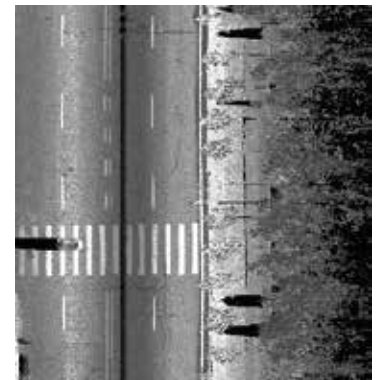
Street View

High-precision point cloud and high-resolution images can be obtained with the R-Angle mobile scanner and a LadyBug panoramic camera or SLR multi-fight panormic camera. 3D high resolution street view is available after point clouds are merged with images.



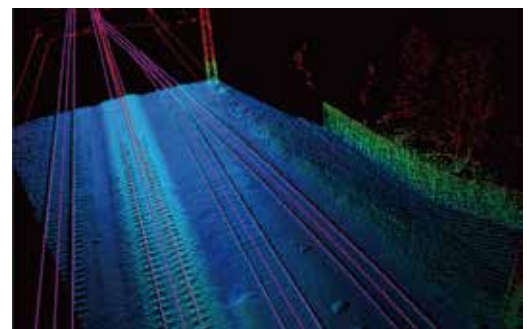
Road and Facilities

With full FOV, R-Angle is able to collect all features along the road when moving in one direction. Identification and extraction of features can be done with post-processing software.



Applications on Highways and Railways

R-Angle enables economic and efficient 3D point cloud acquisition for road expansion and pavement monitoring. Sectional view of the road can be used for construction design. Installation of R-Angle on railcar enables monitoring surrounding conditions of the rail route beside point cloud acquisition.



High Resolution Colored 3D Point Cloud

High-precision point cloud and high-resolution images can be obtained with a R-Angle mobile scanner and panoramic camera. High resolution true color 3D point cloud is available after RGB color texture is merged to point clouds.



Specification

R-Angle(SureStar)				
Specifiation		RA-0500	RA-1000	RA-1500
Min. Range	(m)	1.5	2	5
Max. Range	(m)	≥ 100@500kHz	≥ 300@300kHz	≥ 1000@100kHz
Max. Pluse Frequency	(kHz)	1200	1200	1200
Laser Safety		ClassI	ClassI	ClassIII
Wave length	(nm)	1550	1550	1550
Echoes		Multiple	Multiple	Multiple
Beam Divergence	(mRad)	~0.35	~0.35	~0.3
Field of View	(°)	360	360	360
Scan Speed	(Hz)	10~200	10~200	10~100
Range Precision	(mm)	10@100m	10@100m	10@100m
Resolution	(°)	0.001	0.001	0.001
Scanner Weight	(kg)	~5	~5	~15
Operation Temperature	(°C)	-20~65	-20~65	-20~65
Storage Temperature	(°C)	-35~70	-35~70	-35~70
Power Supply	(V DC)	18~32	18~32	18~32
max. range	(m)	1200	1200	2000
Power Consumption	(W)	< 100	< 100	< 120

Software package

Equipment operating: SS-Rctrl

Data solving: SS-Lipre

Data output fotmat

XYZI, LAS, PTX, PLR etc.

Customized data format is available.

Camera controling

Able to control camera exposure via fixed angle or timing.

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