

Mobile Scanning

for 2D and 3D Laser Scanner

RIEGL laser scanners are well suited for mapping applications from moving platforms (e.g., rovers, rail vehicles, boats). In order to register scan data acquired from non-stationary platforms in a stationary coordinate system, e.g., WGS84, the laser scanner has to be supplemented by position and attitude sensors, e.g., GPS (Global Positioning System) and IMU (Inertial Measurement Unit), and the laser data have to be merged with these additional data.

RIEGL 3D scanners are primarily intended for acquiring of 3D data from a stationary scan position, but additionally support a 2D line scan mode as for 2D scanners, making them ready for mapping applications.



photo courtesy of SARL ECARTIP and PORT OF MARSEILLE

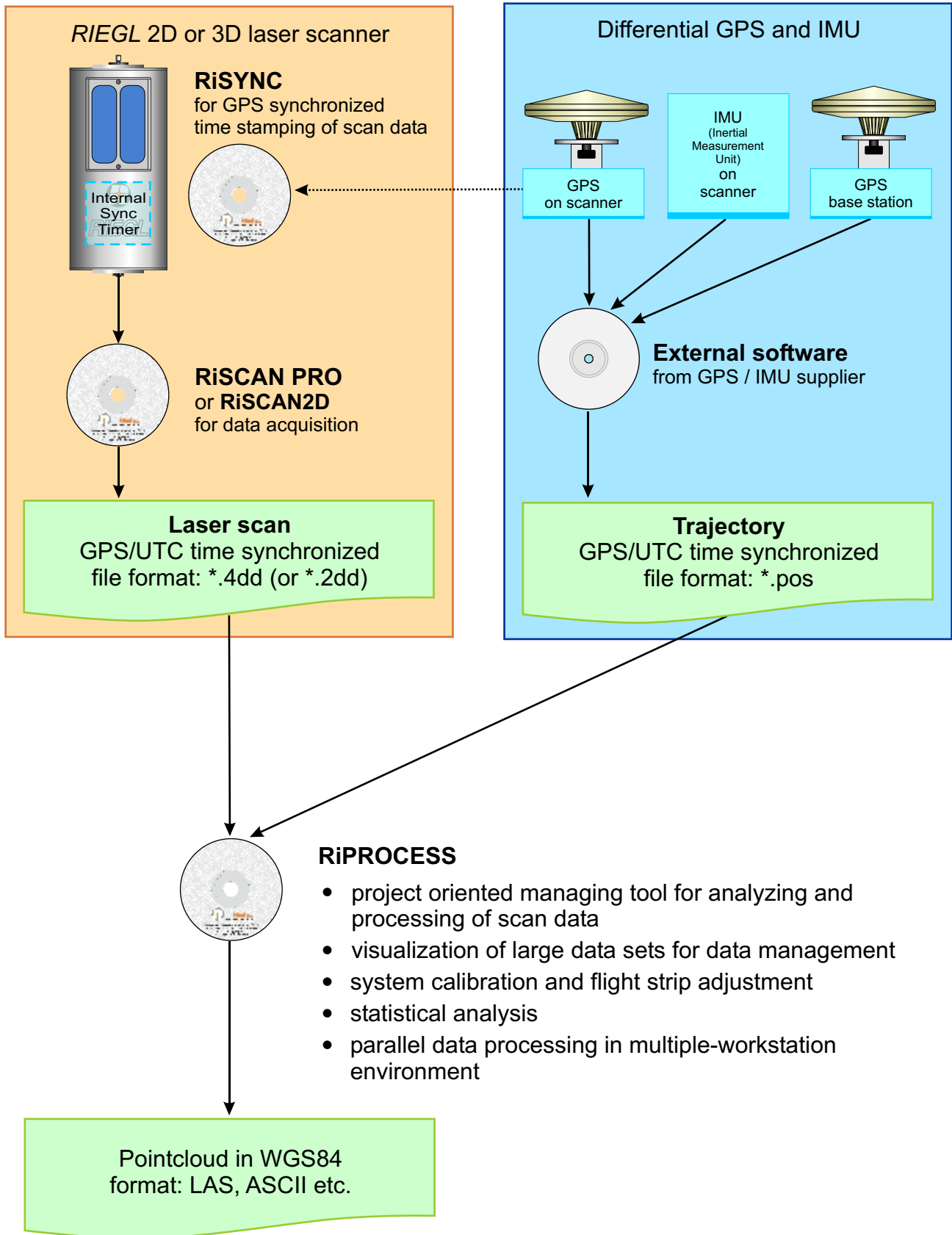


visit our webpage
www.riegl.com

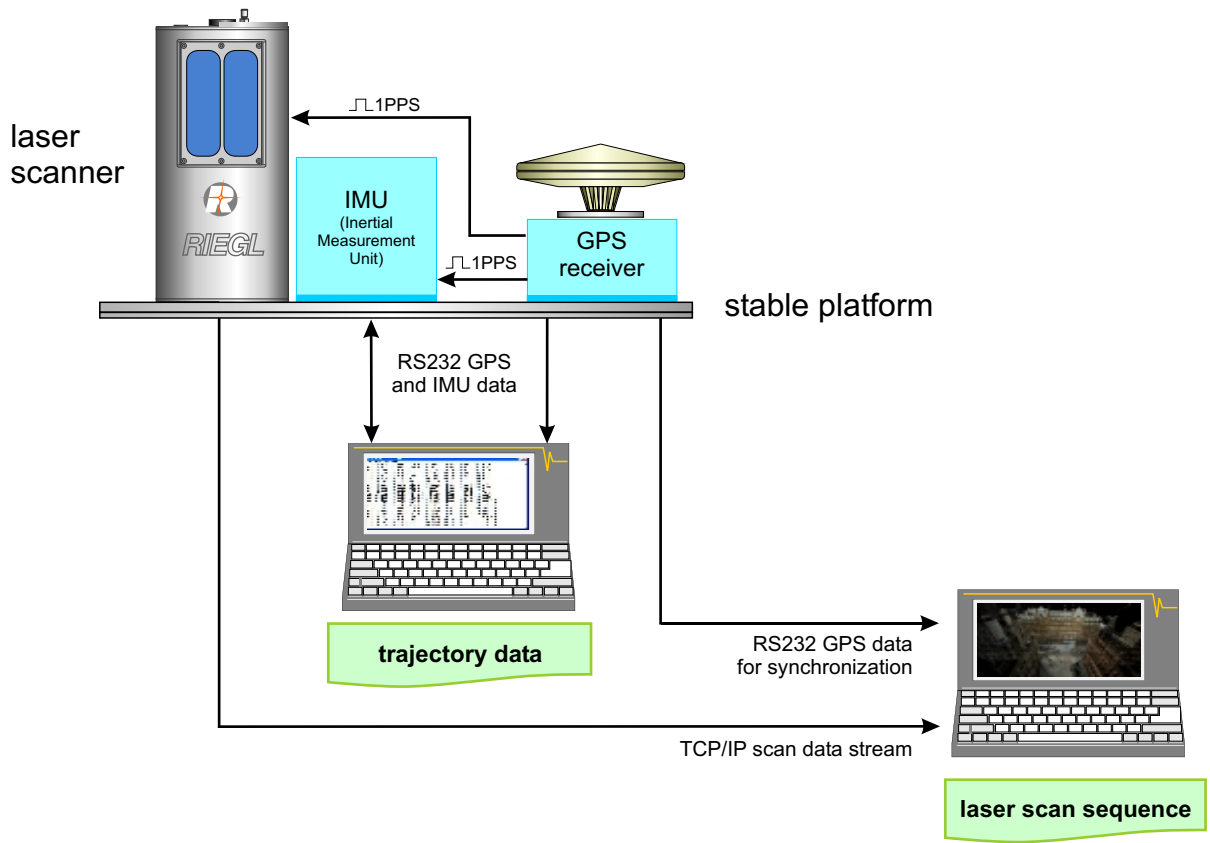


RIEGL
LASER MEASUREMENT SYSTEMS

Schematic Workflow



Schematic Mobile Scanning System Setup



Data Format of Trajectory Data (*.pos-Format)

Trajectory File (*.pos)

The *.pos file contains orientation and position information of the moving platform.

Example:

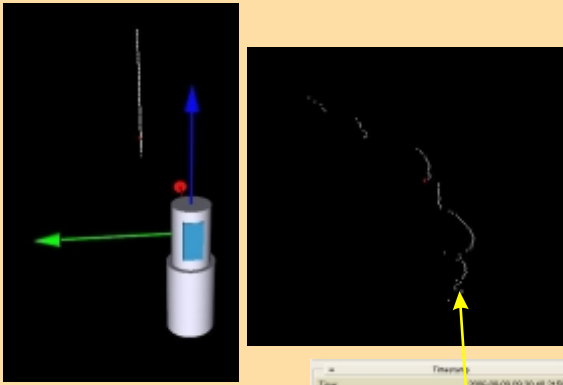
UTC timestamp in seconds [seconds of day]	Latitude [deg]	Longitude [deg]	Height [m]	Roll [deg]	Pitch [deg]	Yaw [deg]
50759.0010	48.33841614	15.93149532	471.005	-0.8156	7.1238	71.1383
50759.0020	48.33841616	15.93149556	471.004	-0.8118	7.1230	71.1393
50759.0030	48.33841617	15.93149579	471.002	-0.8081	7.1214	71.1409
50759.0040	48.33841619	15.93149602	471.000	-0.8039	7.1195	71.1411
...						

The values are separated by blanks.

Example Data

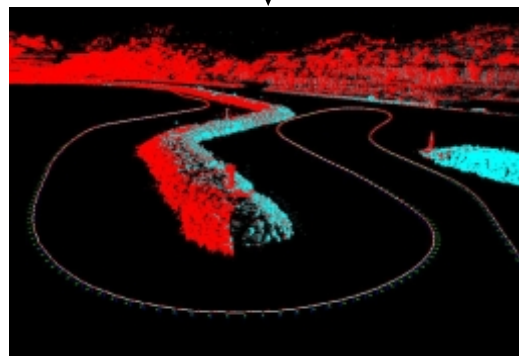
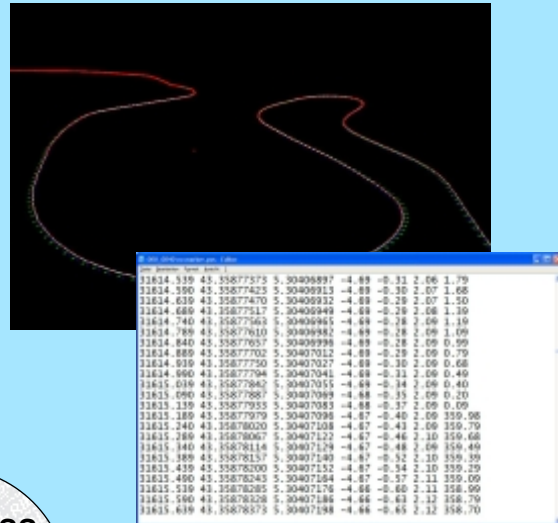


Line scan
by 2D or 3D laser scanner



Each laser shot
has its time stamp.

Trajectory
measured by GPS and IMU



3D pointcloud with trajectory

Information contained herein is believed to be accurate and reliable. However, no responsibility is assumed by RIEGL for its use. Technical data are subject to change without notice. Preliminary Data Sheet Mobile Scanning, 20/02/2007



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