NEW *RIEGL* RiLOC®-F

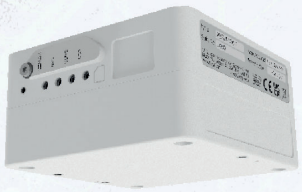
RIEGL's high-precision IMU/GNSS solution for VUX-series laser scanners

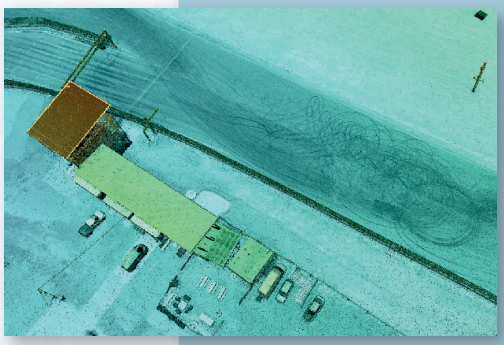
In addition to the already proven RiLOC-E[25], *RIEGL* now also offers a new high-precision, fully integrated subsystem for localization and orientation (**L**ocalization/**O**rientation/**C**omponent), the **RiLOC-F** IMU/GNSS solution for VUX-series laser scanners.

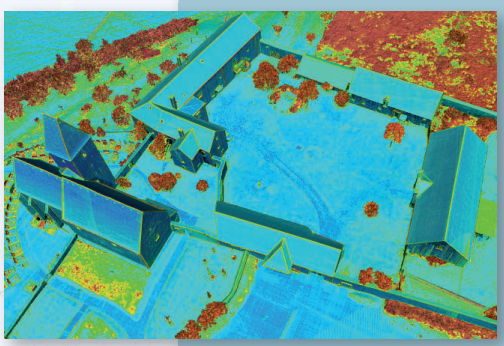
RiLOC-F is directly attached to the rear panel of the VUX-100[25] or VUX-120[23] and fully integrated in the VUX-160[23] and VUX-180[24]. It includes a high-precision Micro Electro Mechanical System (MEMS) Inertial Measurement Unit (IMU), a GNSS unit, and appropriate software. All components are included in a compact and lightweight housing, that is directly attached to the *RIEGL* VUX-series laser scanners. The combination of a VUX-series laser scanner and RiLOC-F into a compact complete LiDAR system is the ideal solution for small-scale LiDAR surveying with unmanned platforms suchs as multirotor, fixed-wing, or VTOL drones. In such applications, using a nearby local base station ensures the shortest base length and thus maximum accuracy in the georeferencing of the *RIEGL* VUX-series laser scanner's high-precision LiDAR data.

Key Features

- tight coupling of IMU / GNSS / LiDAR data
- seamlessly integrated into the *RIEGL* post-processing workflow
- lightweight, small form factor







Specifications RiLOC®-F

IMU system	MEMS based
IMU sampling rates	up to more than 700 Hz
IMU acceleration range	±8 g, full scale
IMU angular rate range	± 300°/sec
Performance specifications[1)]	0.02 -0.03 m (position, post-processed)
GNSS system	multi-constellations (GPS, GLONASS, Galileo and BeiDou) up to triple-frequency
RiLOC-F dimensions	approx. 85 x 85 x 44 mm
RiLOC-F weight	approx. 0.35 kg / 0.8 lbs

1) single base station (short base line operation < 10 km); overlapping flight strips with at least 25% overlap and cross strips; elevation changes applies and/or man-made objects with planar features need to be available

RIEGL RiLOC-F
directly attached to the
e.g. *RIEGL* VUX-100[25] LiDAR sensor

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