



Accessory List

RIEGL VZ-2000i Long Range Scanner





Overview

■ ... indicated items are part of the scanner basic configuration
 □ ... optional items

*Click on the accessory and go directly to the specifications!

Tripods

Carbon Surveyor's Tripod	□
Stable, Professional Tripod	□
Tripod Star for operation on smooth surfaces	□

GNSS Options

<i>RIEGL</i> VZ-i GNSS RTK Receiver	□
<i>RIEGL</i> VZ-i GNSS RTK antenna	■
GPS Antenna for VZ-XXX	□
Serial Data and PPS (BNC) Cable to GNSS receiver, 3m	□
Cable for external GNSS, Lemo (6 pole) to SUB-D and BNC, length 270mm, BNC cable length 270mm	□
Cable for external Leica GNSS, Lemo (6 pole/8 pole), length 390mm	□
Cable for external Trimble GNSS, Lemo (6 pole/7 pole), length 390mm	□
GNSS Mounting Adapters	□
GNSS Adapter for Professional Operation in Harsh Environments	□

Power Supply Management

Battery Mount/Charging Station RBLI 2900	□
Battery-Pack Li-Ion AP-RBLI 2903 for RBLI 2900	□
AC Power Supply Unit for VZ-xx	■
Rechargeable NiMH Battery for External Power Supply	□
Automatic Charger for External NiMH Battery	□
Power Supply Cable, 7 pole to 2 pole for V-Line, 2m	□
Adapter cable, from banana plugs to power supply cable, 1m	□
Adapter cable, from cigarette lighter plug to power supply cable, 1m	□

Power Supply Management

Adapter Cable, from 12 V PbGel battery to 7 pole power supply cable, 1m (quick action)	□
Adapter Cable, from 12 V PbGel battery (crocodile) to 7 pole power supply cable, 1m	□
Power supply cable VZ-i Series to LiPo Battery, 0.3 m	□
Power Supply Cable 2pole to cigarette lighter plug for V-Line, 2m	□
Power Supply Cable 2pole to cigarette lighter plug for V-Line, 2m – angled connector	□

Camera

<i>RIEGL</i> VZ-i-20M Heavy-Duty Camera	□
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Accessories for Protection and Transport

Scanner Carrying Case for VZ-i Series	□
Carrying Case for <i>RIEGL</i> VZ-i GNSS RTK receiver	□
Scanner Carrying Case for VZ-i Series with mounted <i>RIEGL</i> VZ-i-20M Heavy-Duty Camera	□
Heavy Duty Carrying Case for <i>RIEGL</i> VZ-i-20M Heavy-Duty Camera	□
Scanner Carrying Case "LARGE" for VZ-i Series	□
Protection Plate for Camera Connector on top of the Scanner for VZ-i Series	□
Set of Protection Caps for VZ-i Series instruments	■



Retroreflectors	
Flat Circular Retroreflectors	■
Biaxial Bireflex Flat Circular Retroreflectors	□
Cylindrical Retroreflectors	□
Tribrachs	
Adjustable Tribrach, ready for laser plummet	□
Adapter for Tribrach, ready for laser plummet	□
Mounting Options	
Scanner Mount for Manual Tilt for VZ-xx	□
Shock-Absorbing Mount, SPM-Vxx	□
Adapterplate for SPM-Vxx	□
Antennas	
GSM antenna VZ-i Series 4G (long)	■
GSM antenna VZ-i Series 4G (short)	■
WLAN antenna for VZ-i Series	□
Equipment for Permanent Monitoring	
<i>RIEGL</i> V-Line CB23	□
AC power supply unit for <i>RIEGL</i> V-Line CB23	□
<i>RIEGL</i> Protective Housing PH-VZ Light-S	□
Other Accessories	
TCP/IP Cable M12-RJ45, 1.3 m	□
TCP/IP Cable M12-RJ45, 3 m	■
USB Debug Cable for VUX and VZ-i Series, 1.5 m	■
Service Options	
Basic Service Package A for VZ-2000i	□
Post-Processing Software	
RiSCAN PRO Static LiDAR Data Processing	■
<i>RIEGL</i> Deep Learning Suite Image Content Anonymization	□
RiSOLVE Static LiDAR Data Processing for Rapid Response	□
RiMINING Static LiDAR Data Processing for Mining	□
Post-Processing Software Plug-Ins	
RiPANO Publishing	□
LIS TreeAnalyzer Plug-In	□
LIS GeoTec Plug-In	□
RiSCAN PRO Kinematic Data Processing	□
RiUNITE – RiWORLD functionality, LIGHT	□
Static Multi Station Adjustment License	□
<i>RIEGL</i> Post Processing Apps	
Monitoring Apps for VZ-i Series (Monitoring, DesignCompare, SlopeAngle)	□
Trainings	
<i>RIEGL</i> Guided Self-Paced TLS Training	□
<i>RIEGL</i> Web Training on a full-day basis	□
<i>RIEGL</i> Web Training on a half-day basis	□
<i>RIEGL</i> Two-Day Training	□

■ ... indicated items are part of the scanner basic configuration

□ ... optional items

Tripods

Carbon Surveyor's Tripod

➤ Part-No. HW-GP-06-474-00

maximum load: 22 kg
weight: 4.9 kg
height: 193 cm



Stable, Professional Tripod

➤ Part-No. HW-GP-06-370-00

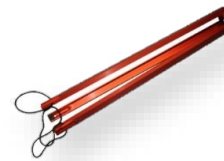
weight: 7.60 kg
height: 170 cm



Tripod Star for Operation on Smooth Surfaces

➤ Part-No. HW-GP-06-001-00

weight: 0.35 kg



GNSS Options

VZ-i GNSS RTK Receiver

➤ Part-No. HW-VZI-06-006-00

- Concurrent reception of GPS, GLONASS, Galileo and BeiDou
- Multi-band RTK with fast convergence times and reliable performance
- Position accuracy: RTK 0.01 m + 1 ppm CEP ¹⁾
- Convergence time: RTK < 10 sec ¹⁾
- Integrated LoRa radio for RTK operation with Emlid Reach RS2 as base station
 - frequency range: 868/915 MHz
 - range: up to 8 km
- RTK with any receiver that supports RTCM 3 via NTRIP or TCP/IP
(cellular module, LAN or WLAN of the scanner)

1) depends on atmospheric conditions, baseline length, multipath conditions, satellite visibility and geometry



RIEGL VZ-i GNSS RTK antenna

➤ Part-No. HW-VZI-06-000-00

GNSS antenna for usage with *RIEGL* VZ-i Series scanner to receive RTK correction data



GPS Antenna for VZ-XXX

➤ Part-No. HW-VZ400-06-000-00



Serial Data and PPS (BNC) Cable to GNSS receiver, 3 m

➤ Part-No. HW-VZXX-03-000-00



Cable for external GNSS, Lemo (6 pole) to SUB-D and BNC, length 270mm, BNC cable length 270mm

➤ Part-No. HW-VZXX-03-006-00

use without camera



Cable for external Leica GNSS, Lemo (6 pole/8 pole), length 390mm

➤ Part-No. HW-VZXX-03-015-00

use with camera



Cable for external Trimble GNSS, Lemo (6 pole/7 pole), length 390mm

➤ Part-No. HW-VZXX-03-008-00

use with camera



GNSS Mounting Adapters

➤ Part-No. HW-VZXX-06-069-00

Set of 3 adapters for mounting a customer-specific, differential GNSS antenna, with 5/8" screw connector.

- Adapter 1 is for use without camera mounted
- Adapter 2 is for use with camera mounted
- Adapter 3 is for use with camera mounted, but without a direct cable connection between the external GNSS antenna and the scanner



GNSS Adapter for Professional Operation in Harsh Environments

➤ Part-No. HW-VZI-06-004-00



Power Supply Management

Battery Mount/Charging Station RBLI 2900

➤ Part-No. HW-VZXX-04-005-00

- Prepared to have three single battery packs AP-RBLI 2903 inserted, providing 99Wh each.
- Weight: with 1 battery pack 1.5 kg / with 3 battery packs 2.2 kg
- Hot-Swap capability: for uninterrupted scanning
Long operation time (with battery pack typ. 1h 40 min / with 3 battery packs typ. 5h)



Battery-Pack Li-Ion AP-RBLI 2903 for RBLI 2900

➤ Part-No. HW-VZXX-04-006-00

- Capacity of 99Wh, 3.45 Ah
- Li-Ion 28.8 V
- Typ. 500-600 Charging Cycles
- Charging time: 3h



AC Power Supply Unit for VZ-xx

➤ Part-No. HW-VZXX-04-000-00

For *RIEGL* VZ-xx, 100 - 240 V AC, 50 - 60 Hz

- for direct operation of the scanner from main power supply
- for supplying e.g. the
 - Charging Station (Part-No. HW-VZXX-04-011-00) or
 - Dual Charger (Part-No. HW-VZXX-04-010-00)



EU-version

Intended for combined use!

Rechargeable NiMH Battery for External Power Supply

➤ Part-No. HW-GP-04-000-00

- 13.2 V, 18 Ah, 238Wh, with fuse

weight 3.37 kg



Automatic Charger for External NiMH Battery

➤ Part-No. HW-GP-04-001-00

- 100 -240 V AC, short circuit proof

weight: 0.35 kg



Power Supply Cable, 7 pole to 2 pole for V-Line, 2m

➤ Part-No. HW-VXX-03-011-01



Adapter cable, from banana plugs to power supply cable, 1m

➤ Part-No. HW-GP-03-004-00



Adapter cable, from cigarette lighter plug to power supply cable, 1m

➤ Part-No. HW-GP-03-005-00



intended for combined use!

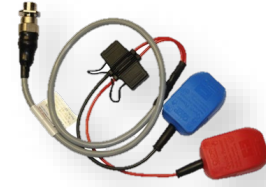
Adapter Cable, from 12 V PbGel battery to 7 pole power supply cable, 1m (quick action)



Part-No. HW-GP-03-006-00

- compatible with Power Supply Cable (Part-No. HW-VXX-03-011-01)
- with “quick action” battery pole connectors

weight: 0.35 kg



Adapter Cable, from 12 V PbGel battery (crocodile) to 7 pole power supply cable, 1m



Part-No. HW-GP-03-007-00

- compatible with Power Supply Cable (Part-No. HW-VXX-03-011-01) compatible with Power Supply Cable (Part-No. HW-VXX-03-011-01)
- with “crocodile” battery pole connector

weight: 0.32 kg



intended for combined use!

Power supply cable VZ-i Series to LiPoBattery, 0.32 m

➤ Part-No. HW-VXX-03-044-00



Power Supply Cable 2 pole to cigarette lighter plug for V-Line, 2m

➤ Part-No. HW-VXX-03-052-00

Compatible with e.g.

- Dual Charger
(Part-No. HW-VZXX-04-010-00) or
- Charging Station
(Part-No. HW-VZXX-04-011-00)

weight: 0.16 kg



Power Supply Cable 2 pole to cigarette lighter plug for V-Line, 2m – angled connector

➤ Part-No. HW-VXX-03-054-00



intended for combined use!

Camera

RIEGL VZ-i-20M Heavy-Duty Camera



Part-No. HW-VZI-09-000-00

RIEGL provides an IP64 certified Heavy-Duty Camera solution optimized for typical harsh mining conditions.

The new *RIEGL* VZ-i-20M Heavy-Duty Camera offers quick and userfriendly mounting to your VZ-i Series Laser Scanner.

Precise position and orientation of the camera are enabled by three supporting points. With a resolution of 20 Megapixel and a FOV of 40 deg by 57 deg this camera provides high resolution images.

Power supply and camera USB not camera interface are provided via the scanner directly. Camera operation, changing of settings, and organization of data storage is fully integrated in the *RIEGL* VZ-i Series 3D Terrestrial Laser Scanner's GUI (Graphical User Interface).

In case of using the Heavy-Duty Camera solution, your GNSS antenna can be mounted directly on top of the camera.

Camera Performance Data:

- Sensor 1" CMOS Sensor, color
- Resolution 20 MPixel, 3648 px (H) x 5472 px (V)
- Exposure time 67 microsecond to 30 seconds
- Camera Lens Heavy-Duty Camera high resolution C-Mount lens, f=12 mm
- Camera FOV 40deg (H) x 57deg (V)
- Camera Elevation Angle + 8.5deg



Accessories for Protection and Transport

Scanner Carrying Case for VZ-i Series

 Part-No. HW-VZXX-05-008-00

Dimensions: 560 x 455 x 265 mm

- with 4 hinged handgrips and wheels
- splash-proof
- foam lined to fit shape of *RIEGL* VZ-i scanner series and cables



Scanner Carrying Case for VZ-i Series with mounted *RIEGL* VZ-i-20M Heavy-Duty Camera

 Part-No. HW-VZXX-05-012-00

- with 4 hinged handgrips and wheels
- splash-proof
- foam lined to fit shape of *RIEGL* VZ-2000i scanner with mounted Add-On Rechargeable Battery and a VZ-i-20M Heavy-Duty Camera



Heavy Duty Carrying Case for *RIEGL* VZ-i-20M Heavy-Duty Camera

 Part-No. HW-VZI-05-000-00





Scanner Carrying Case "LARGE" for VZ-i Series

➤ Part-No. HW-VZ400-05-002-00

Dimensions: 628 x 497 x 303 mm

- with 4 hinged handgrips and wheels
- splash-proof
- foam lined to fit shape of *RIEGL* VZ-400i/VZ-2000i, scanner mount for manual tilt and cables.



Protection Plate for Camera Connector on top of the Scanner for VZ-i Series

➤ Part-No. HW-VZXX-06-070-00



Set of Protection Caps for VZ-i Series instruments

➤ Part-No. HW-VZXX-06-065-00



Retroreflectors

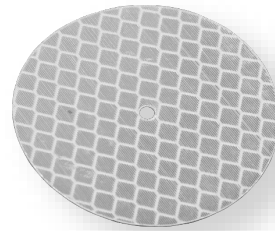
Flat Circular Retroreflectors

Included in the Scanner Basic Configuration:

- Part-No. HW-GP-06-002-01
(25 pieces, 50 mm)

Not Included in the Scanner Basic Configuration:

- Part-No. HW-GP-06-002-00
(100 pieces, 50 mm) weight: 0.15 kg
- Part-No. HW-GP-06-003-00
(100 pieces, 100 mm) weight: 0.40 kg



Biaxial Bireflex Flat Circular Retroreflectors

- Part-No. HW-GP-06-454-00
 - 50 mm each
 - mounted on universal joints

weight: 0.07 kg



Cylindrical Retroreflectors

- Part-No. HW-GP-06-271-00
(50 x 50 mm)
- Part-No. HW-GP-06-274-00
(100 x 100 mm)
 - 5 pieces each



Tribrachs

Adjustable Tribrach, ready for laser plummet

 Part-No. HW-VZXX-06-010-00

Adjustable tribrach, ready for laser plummet, extra stable quality, with bubble level, for mounting the *RIEGL* VZ-xx on a tripod.

Note: *RIEGL* VZ-xx mounted on a tribrach to be used only in vertical position!
Due to reduced stability, usage of a tribrach may reduce measurement result quality.



Adapter for Tribrach, ready for laser plummet

 Part-No. HW-GP-06-013-00



intended for combined use!

Mounting Options

Scanner Mount for Manual Tilt for VZ-xx

➤ Part-No. HW-VZXX-06-006-00

damped tilting mechanism, adjustable in steps of 15° up to 90



Shock-Absorbing Mount, SPM-Vxx

➤ Part-No. HW-VZXX-06-077-00 (small)/
Part-No. HW-VZXX-06-076-00 (large)

Made of stainless steel mounting plates and optimized shock-absorbing elements.



Adapterplate for SPM-Vxx

➤ Part-No. HW-VZXX-06-075-00

Adapterplate mounted on the scanner for quick and stable connection with the Shock-Absorbing Mount.



intended for combined use!



Antennas

GSM antenna VZ-i Series 4G (long)

➤ Part-No. HW-VZ400i-06-002-00



GSM antenna VZ-i Series 4G (short)

➤ Part-No. HW-VZi-06-002-00



WLAN antenna for VZ-i Series

➤ Part-No. HW-VZi-06-001-00



Equipment for Permanent Monitoring

RIEGL V-Line CB23

➤ Part-No. HW-VZXX-06-097-00

RIEGL V-Line CB23 for stable and seamless remote 24/7 operation of *RIEGL* V-Line scanners.

The integrated UB23 provides functionality known from the VZ-i series scanners for connected VZ-series scanners. High accurate environmental data is available by an external sensor for atmospheric correction of the scan data.



AC power supply unit for RIEGL V-Line CB23

➤ Part-No. HW-CB23-04-000-00

24V DC / 280 Watt, with extension cord to Lemo Connector, 5.0m



RIEGL Protective Housing PH-VZ Light-S

➤ Part-No. HW-VZXX-06-112-00

For reliable 24/7 operation *RIEGL* 3D Terrestrial Laser Scanners in harsh environments and demanding meteorological conditions



Other Accessories

TCP/IP Cable M12-RJ45, 1.3m

 Part-No. HW-GP-03-141-00



TCP/IP Cable M12-RJ45, 3m

 Part-No. HW-GP-03-056-00



USB Debug Cable for VUX and VZ-i Series, 1.5m

 Part-No. HW-VUX-03-000-00





Service Options

Basic Service Package A for VZ-2000i

 Part-No. HW-GP-11-061-00

Package A is recommended at a basic service interval of either

- 3000 hours of total scan operating time (= scanning mechanism in operation)
- or 2 years

whichever occurs earlier.

It comprises:

- | | |
|--|--|
| • handling and cleaning of the device | • re-calibration of the orientation sensors at the <i>RIEGL</i> test field measurement of laser output power |
| • laying out of service paper work | • check of measurement range |
| • first functional check | • test of GNSS interface |
| • cleaning of the beam exit window | • preparation of calibration and test certificates |
| • Installation of firmware upgrades (if applicable) | • packing of the device and return shipment |
| • re-calibration of the range finder unit | • check the calibration of the internal camera |
| • re-calibration of the scanner at the <i>RIEGL</i> test field | • re-calibration of optical plummet |
| • measurement of laser output power | • re-flushing with dry nitrogen |
| • replacement of desiccant cartridge | |

Post-Processing Software

RiSCAN PRO Static LiDAR Data Processing

- **Instrument Serial Number License (SNL)**
Part-No. SW-TLS-07-000-00

Included in the scanner basic configuration

- **Floating License Package (SIL)**
Part-No. SW-TLS-07-001-00

RiSCAN PRO Instrument Serial Number License mandatory

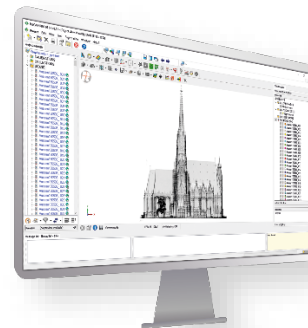
[Click or scan for the specifications!](#)



Extended Maintenance for RiSCAN PRO Static LiDAR Data Processing

- **Instrument Serial Number License (SNL)**
Part-No. SW-TLS-12-000-00

- **Floating License Package (SIL)**
Part-No. SW-TLS-12-001-00



RIEGL Deep Learning Suite Image Content Anonymization

- **Instrument Serial Number License (SNL)**
Part-No. SW-GP-07-009-00

- **Floating License Package (SIL)**
Part-No. SW-GP-07-010-00



RiMINING Static LiDAR Data Processing for Mining



Instrument Serial Number License (SNL)

Part-No. SW-TLS-07-002-00



Floating License Package (SIL)

Part-No. SW-TLS-07-003-00

[Click or scan for the specifications!](#)



Extended Maintenance for RiMINING Static LiDAR Data Processing for Mining



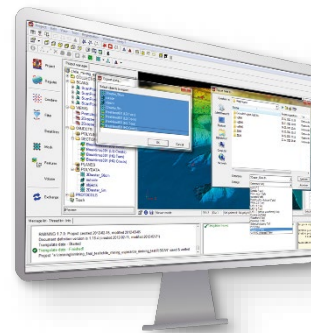
Instrument Serial Number License (SNL)

Part-No. SW-TLS-12-002-00



Floating License Package (SIL)

Part-No. SW-TLS-12-003-00



Post-Processing Software | Plug-Ins

RiPANO Publishing



Instrument Serial Number License (SNL)

Part-No. SW-TLS-07-006-00

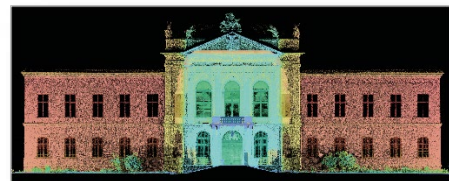


Floating License Package (SIL)

Part-No. SW-TLS-07-007-00



[Click or scan for the specifications!](#)



LIS TreeAnalyzer Plug-In



Instrument Serial Number License (SNL)

Part-No. SW-TLS-07-015-00



Floating License Package (SIL)

Part-No. SW-TLS-07-014-00



LIS GeoTec Plug-In



Instrument Serial Number License (SNL)

Part-No. SW-TLS-07-008-00

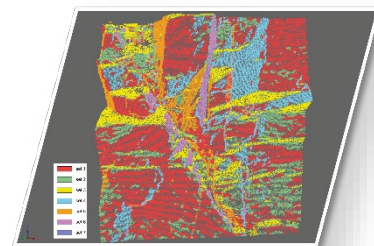


Floating License Package (SIL)

Part-No. SW-TLS-07-009-00



[Click or scan for the specifications!](#)



Static Multi Station Adjustment License



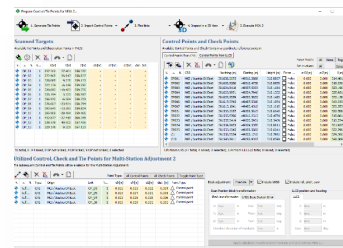
Instrument Serial Number License (SNL)

Part-No. SW-TLS-07-010-00



Floating License Package (SIL)

Part-No. SW-TLS-07-011-00





RiSCAN PRO Kinematic Data Processing



Instrument Serial Number License (SNL)

Part-No. SW-TLS-07-012-00



Floating License Package (SIL)

Part-No. SW-TLS-07-013-00

RiUNITE – RiWORLD functionality, LIGHT



Instrument Serial Number License (SNL)

Part-No. SW-GP-02-158-00



Floating License Package (SIL)

Part-No. SW-GP-02-157-00

Extended Maintenance for RiUNITE – RiWORLD functionality, LIGHT



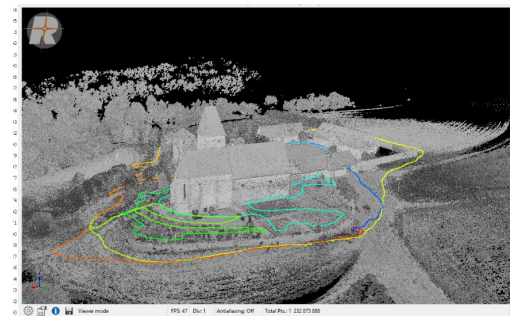
Instrument Serial Number License (SNL)

Part-No. SW-GP-12-151-00



Floating License Package (SIL)

Part-No. SW-GP-12-150-00





RIEGL Post Processing | Apps

Monitoring Apps for VZ-i Series (Monitor +, Monitoring, DesignCompare, SlopeAngle)



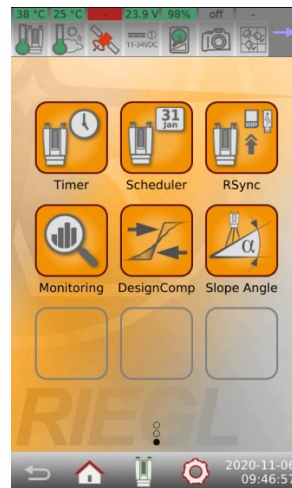
Part-No. SW-GP-02-102-00

Three easy-to-use and innovative apps, which support users in their daily work, especially in critical situations. Visualization of the results via GUI or web viewer for detailed analysis.

- **Monitor + App:** Monitoring of surface and targets/prisms in one. A flexible solution for permanent, periodic, and sporadic data acquisition.
- **Monitoring App:** Data comparison and visualization of differences to a reference data set.
- **Design Compare App:** Data comparison to a given 3D design model. Visualization of undercut and overcut.
- **Slope Angle App:** Calculation and visualization of local slope angles.



[Click or scan for the specifications!](#)





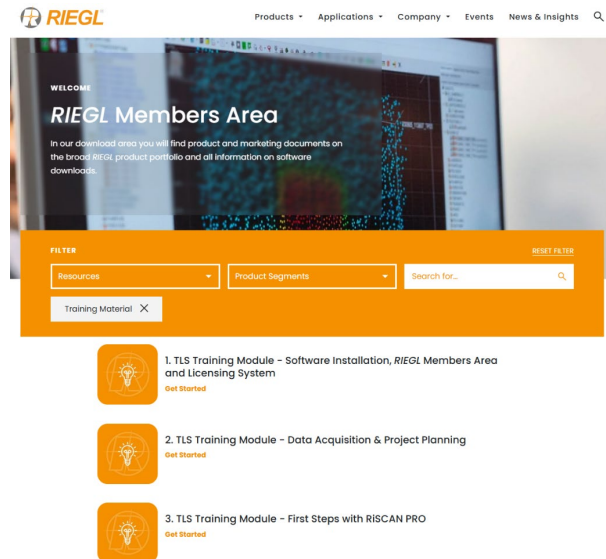
Trainings

RIEGL Guided Self-Paced TLS Training

 Part-No. ST-GP-11-122-00

The guided self-paced training is completed at your own pace. Online training modules form the core of this training. Before the training starts, there is a brief introductory online session ($\approx 30\text{min}$) with the trainer, explaining the training structure. Each block of training modules is followed by a compact online session ($\approx 1\text{h}$) with the trainer, during which questions and uncertainties are discussed in detail. In the last session, specific workflows for particular applications can be addressed.

Please contact sales@rie-gl.com to schedule the first introductory online session with the trainer.



RIEGL Web Training on a full-day basis

 Part-No. ST-GP-11-096-00

RIEGL Web Training on a half-day basis

 Part-No. ST-GP-11-096-01

RIEGL Two-Day Training

 Part-No. ST-GP-11-000-00

The training will be held either at our site in Horn, Austria, or at your site (travelling and accommodation expenses to be added).