

**Aalto-yliopisto**  
**Fablab**  
**Solomon Embafrash**  
solomon.embafrash@aalto.fi

Dear Mr Embafrash,

Please allow us to offer you a *RIEGL VZ-400i* laser scanner with software as follows:

### 1.1 SCANNER PACKAGE

HW-VZ400i



#### **RIEGL VZ-400i Laser Scanning full system consisting of:**

##### **Scanner Basic Configuration for RIEGL VZ-400i**

- laser transmitter & receiver front end
- motorized mirror scanning mechanism
- signal processing electronics with echo digitization and online waveform analysis
- High-resolution (800x480px) 5" color display with touchscreen
- 1TByte SSD for data storage, internal
- GPS receiver (L1), integrated
- GNSS (RTK) Antenna for VZ-I Series (HW-VZI-06-000-00)
- MEMS IMU, integrated (3-axis accelerometer / gyroscope / magnetometer (compass and barometer)
- laser plummet, integrated
- internal power supply electronics, input voltage 11 – 34V DC

Detailed specifications and laser classification according to the latest datasheet of RIEGL VZ-400i

##### **Electrical Interfaces, integrated**

- LAN interface 10/100/1000 Mbit/s within base
- integrated WLAN interface with two high-gain MIMO antennas
- USB 3.0 for external storage devices (USB flash drives, external HDD)
- SDXC card slot for storage media up to 512 Gbytes
- GigE and USB 3.0 interface for optional external camera
- one connector for L1 GPS antenna
- two connectors for external power supply
- connector for serial interface and external GPS synchronization pulse (1PPS)
- interface and connector for external GNSS receiver
- Integrated multi-mode cellular module with two MIMO LTE 4G/3G antennas and Nano SIM card holder

##### **Mechanical Interfaces, integrated**

- W5/8" standard tripod mounting thread
- high precision mounting pads for camera mount on top
- 3x M6 mounting threads, depth 8 mm at bottom

HW-VZI-06-000-00

##### **RIEGL VZ-i GNSS RTK antenna**

HW-GP-03-000-00

##### **Cables**

TCP/IP cable M12-M12, 3 m

HW-GP-03-002-00

TCP/IP cable M12-RJ45, 0.3 m

VAT (0%)

**56 500,00 EUR**

HW-VUX-03-000-00 USB Debug Cable for VUX and VZ-400i, 1.5m

HW-VZXX-04-000-00 **AC Power Supply Unit for VZ-xx**

HW-VZXX-06-065-00 **Set of Protection Caps for VZ-400i instruments**

HW-GP-06-002-00 **Retroreflectors**

100 pcs. Of flat circular retroreflectors, white, diameter 50 mm

### ***VZ-xx Standalone - Reflector Search and Fine-Scanning***

Applicable for standalone operation with the RIEGL VZ-xx scanner, without the need of a PC running RiSCAN PRO, by means of the scanner's integrated Human Machine Interface.

Identifies all available reflector targets and ignores incorrect ones due to user defined rules and intelligent processing. Automatic fine-scanning of valid reflectors for obtaining accurate reflector position as a basis for global registration.

### ***Automatic On-board Registration***

Onboard coarse registration tool for combining point clouds from different scanner setup positions during data acquisition.

Allows you to drag and drop the scan project into RIEGL's post processing software.

The automatic registration utilizes:

- point cloud information
- IMU (Internal Measurement Unit) information
- compass information
- GNSS measurements

Different settings on-board:

- Automatic selection
- Outdoor urban
- Outdoor non-urban
- Indoor large
- Indoor small

SW-GP-07-000-00 **User Manual (in English language)**

### **RiSCAN PRO Viewer, Acquisition & Processing Software**

The companion software package to the RIEGL Terrestrial Laser Scanner series

For detailed description of main functions see RiSCAN PRO datasheet.

- The companion software package to the RIEGL Terrestrial Laser Scanner series
  - Using a well-documented tree structure for comfortable access and clarity
  - Project oriented, XML file format
  - For operating systems WINDOWS 7, WINDOWS 8, WINDOWS 10 or above
- includes:
- RiSCAN PRO Viewer License for visualizing of already acquired RiSCAN PRO projects and simple data evaluation
  - RiSCAN PRO Acquisition License for RIEGL scanner configuration and data acquisition, global scan data registration, viewing and export of merged, filtered point clouds
  - RiSCAN PRO Processing Single User License (Dongle) for advanced data processing and evaluation of already acquired RiSCAN PRO projects
  - RiMTA (multiple-time-around) incorporated

ST-GP-06-000-00 **RiSCAN PRO Standard Software Maintenance for 12 months**

- Free software updates
- E-mail and telephone support

SW-GP-01-001-00	<b>License RiSCAN PRO Processing Network Server License, 10 seats</b>	<b>Free of charge</b>
SW-GP-02-001-00	<b>License RiSCAN PRO Plugin Multi Station Adjustment Module</b> - Advanced registration based on overlapping point clouds - Advanced registration and adjustment based on tie points, control points - Advanced registration and adjustment based on additional plane information	<b>Free of charge</b>
SW-GP-02-075-00	<b>RiPANO Single User License</b> RIEGL Software for Terrestrial Scan Data Visualization RiPANO is a software for fast and easy visualization of terrestrial laser scan projects. The data is loaded into 360° panorama images for intuitive navigation even through complex environments. The software runs plugin-free in a browser on any Windows, Mac, Android or iOS device	<b>Free of charge</b>
	<b>Single User License LIS GeoTec Plug-In</b>	<b>Free of charge</b>
HW-VZXX-05-001-00	<b>Scanner Carrying Case for VZ-400i, small</b> with 4 hinged handgrips and wheels, splash-proof, foam lined to fit shape of RIEGL VZ-400i and cables.	
HW-VZXX-04-006-00	<b>Battery-Pack Li-Ion AP-RBLI 2903 for RBLI 2900</b> Technology Li-Ion 28.8 V Capacity 99 Wh, 3.45 Ah Battery pack life typ. 500 - 600 charging cycles Charging time 3 h <b>Warranty period:</b> 6 months from RIEGL's delivery <b>Guarantee period:</b> 6 months from RIEGL's delivery <b>Certification:</b> Battery pack AP-RBLI 2903 fulfills the requirements of the UN 38.3 <b>NOTE: For more information, please carefully study the attached document:</b> <b>" IMPORTANT INFORMATION ABOUT THE Battery-Pack Li-Ion AP-RBLI 2903 for RBLI 2900"</b>	
HW-VZXX-04-005-00	<b>Battery Mount/Charging Station RBLI 2900</b> The RBLI 2900 is prepared to have three single battery packs AP-RBLI 2903 inserted providing 99Wh each. Battery packs can be smoothly interchanged while the scanner is in use (Hot-Swap capability) - for uninterrupted, many hour long operation. Even, with just one battery pack inserted, enough power is provided to run the scanner reliably for more than one and a half hour.	
ST-GP-11-000-00	<b>Training</b> Regarding the Hardware as well as the operating software RiSCAN PRO. The training will be held either remotely depending of the Covid-19 regulations or at your site.	
<b>Total Net Price for above (Vat 0%)</b>		<b>59 900,00 EUR</b>

**Prices:**

All the Prices are shown without VAT.

**Payment Terms:** Seven days after delivery.

**Delivery Time:** 6-8 weeks after order confirmation.

*Delivery information is provided based upon today's knowledge and belief. However, deliveries may be affected by events beyond RIEGL LMS's control, such as, but not limited to:*

- \* All events of force majeure (e.g. acts of God, armed conflicts, uprisings, terrorist attacks etc.);*
- \* Embargoes, interventions and interdictions of the competent authorities;*
- \* Transport and customs delays;*
- \* Labour shortages as a result of epidemics (for instance the COVID-19), highly infectious diseases etc.;*
- \* Shipping damages or losses;*
- \* Power shortages, shortages or unavailability of raw or prefabricated material and other industry/market shortages of whatsoever nature;*
- \* Labour disputes;*
- \* Default of a key-supplier which is almost impossible to replace;*
- \* Other circumstances or contingencies which prevent meeting the agreed delivery date.*

*Such events justify the postponement of the agreed delivery date for a period corresponding to the duration or after-effect of such events, to the exclusion of any and all legal claims that the buyer otherwise may have.*

**Warranty / Software Maintenance:**

RIEGL Hardware: 12 months

RIEGL Software: Free software updates and e-mail/telephone support for 12 months included.

**Validity of the offer:**

The offer is valid until 19.04.2021.

**Terms and conditions**

RIEGL's offer is exclusively conditioned on and expressly subject to your acceptance of RIEGL's General Terms & Conditions. RIEGL's General Terms & Conditions, Version of February 2011, as attached to this quotation, are an integral part of RIEGL's quotation as well as of any order acknowledgement, deliveries, invoices and other activities arising from or in connection with this business case. Any other Terms & Conditions are hereby object to and expressly rejected by RIEGL without further notice.

**Nordic Geo Center Ltd:**

The Company, founded 2005, is a family owned limited liability company based in Helsinki, Finland. The company is concentrated in 3D laser scanning technologies (static, mobile, airborne) and has represented RIEGL Laser Measurement Systems GmbH since 2008.

Our employees have several decades of practical experience in land survey, photogrammetric and geodetic measurements used in industry, construction, road infrastructure, forest sector and archaeology. We have

also experience of importing, sales and training of surveying systems since 1973. We have experience of Laser Scanning (Airborne, Helicopter and Static) since 1995. Our current clients include the National Land Survey of Finland, Maa-amet (National Land Survey in Estonia), City of Helsinki and several universities including the University of Helsinki, Aalto University and University of Antwerp.

As a reseller, our aim is to support our customers to provide good quality data and take full advantage of their instruments. Therefore, training and support are essential parts of our services.

We hope this quotation satisfies your requirements and we remain, gladly awaiting your Order.

Helsinki 19.03.2021  
Nordic Geo Center Ltd

Nina Heiska  
Nina Heiska, tel. +358 45 128 7071