Based on a future-oriented, innovative new processing architecture, internet connectivity, and RIEGL's latest waveform processing LiDAR technology the RIEGL VZ-2000i Long Range 3D Laser Scanning System combines proven user friendliness in the field with fast and high accurate data acquisition.

The processing architecture enables execution of different background tasks (such as point cloud registration, geo-referencing, orientation via integrated Inertial Measurement Unit, etc.) on-board in parallel to the simultaneous acquisition of scan data and image data. RIEGL's unique Waveform-LiDAR technology enables such high speed, long range, high accuracy measurements even in poor visibility and demanding multi-target situations and delivers reliable data even in harsh environments like open-pit mining.

RIEGL VZ®-2000i
Long Range, Very High Speed
3D Terrestrial Laser Scanning System

Typical Applications
- Topography and Mining
- Natural Hazard Surveying
- Construction Site Monitoring Documentation
- City Modeling
- Tunnel Surveying
- Civil Engineering
- Archeology & Cultural Heritage Research

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**RIEGL VZ-2000i Main Features**

- range up to 2,500 m, accuracy 5 mm
- high quality point cloud colorization based on Nikon® SLR camera image data taken simultaneously during scanning
- orientation sensor for pose estimation
- advanced flexibility through support for external peripherals and accessories, e.g. integrated GNSS unit for high accurate RTK solution, SIM Card slot for 3G/4G LTE, WLAN, LAN, USB
- cloud connectivity via LAN, Wi-Fi, and 3G/4G LTE
- easy to operate even in harsh environments (protection class IP64)
- fully compatible with the RIEGL VMZ Hybrid Mobile Laser Mapping System
- RiSCAN PRO standard processing software (included), RIMINING software package offering an optimized workflow for open-pit mining (optional)

**Automatic On-board Registration**

With two processors on-board, the RIEGL VZ-2000i is able to perform different processes in real-time such as automatic on-board registration in parallel to the scan data acquisition.

<table>
<thead>
<tr>
<th>Processor 1</th>
<th>Processor 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>• scan data acquisition</td>
<td>• conversion of scan data into RIEGL data base</td>
</tr>
<tr>
<td>• simultaneous acquisition of photographs during scanning</td>
<td>• on-board multiple time around resolution</td>
</tr>
<tr>
<td>• pose estimation (using GNSS/IMU/environment sensors)</td>
<td>• registration of scan data as a background process</td>
</tr>
</tbody>
</table>

**RIEGL VZ-2000i Technical Data**

<table>
<thead>
<tr>
<th>Laser Pulse Repetition Rate PRR (peak)</th>
<th>50 kHz</th>
<th>100 kHz</th>
<th>300 kHz</th>
<th>600 kHz</th>
<th>1,200 kHz</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. Effective Measurement Rate (meas./sec)</td>
<td>21,000</td>
<td>42,000</td>
<td>125,000</td>
<td>250,000</td>
<td>500,000</td>
</tr>
<tr>
<td>Max. Measurement Range (p ≥ 90 %)</td>
<td>2,500 m</td>
<td>1,850 m</td>
<td>1,100 m</td>
<td>800 m</td>
<td>600 m</td>
</tr>
<tr>
<td>Max. Measurement Range (p ≥ 20 %)</td>
<td>1,300 m</td>
<td>950 m</td>
<td>540 m</td>
<td>380 m</td>
<td>290 m</td>
</tr>
<tr>
<td>Minimum Range</td>
<td>2 m</td>
<td>1.5 m</td>
<td>1.5 m</td>
<td>1.0 m</td>
<td>1.0 m</td>
</tr>
<tr>
<td>Accuracy / Precision</td>
<td>5 mm / 3 mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Field of View (FOV)</td>
<td>100° vertical / 360° horizontal</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eye Safety Class</td>
<td>Laser Class 1 (eyesafe)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Main Dimensions (width x height) / Weight</td>
<td>206 mm x 308 mm / 9.8 kg</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Further details to be found on the current RIEGL VZ-2000i Data Sheet.

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