RIEGL Presents New Products for 2020 at Intergeo Digital

In line with tradition, RIEGL is once again using Intergeo – albeit digitally this year – to present its latest product innovations. At both the virtual RIEGL booth and in the online forums of Intergeo 2020 Digital, the globally active Austrian laser scanner manufacturer is showing which new developments in the field of Lidar surveying technology can be used to further advance the digitization of the world.

Especially in the field of UAV-based laser scanning (ULS), RIEGL is keen to live up to its pioneering reputation. This year, it is presenting the RIEGL VUX-120, a new Lidar sensor that weighs only 2kg (4.4 lbs) and measures only 225x120x125mm. It features up to 1.8MHz PRR (Pulse Repetition Rate) and delivers up to 400 scan lines and effective 1.5 million measurements per second on the ground. With its special multi-target capability of up to 15 targets per pulse, the VUX-120 penetrates even dense vegetation, which in this case results in a performance of several million measurements per second. Interfaces for the integration of a high-quality IMU/GNSS system and several cameras are available. With this basic technical data, the company regards this scanner as the ultimate solution for use on fixed-wing UAVs in corridor mapping.

UAV-Lidar mapping

The RIEGL VUX-120 uses an innovative scanning pattern for the optimal detection of vertical targets such as high-voltage pylons, house facades or steep mountain slopes. In this so-called NFB (Nadir/Forward/Backward) scanning, the 100° field of view is scanned in alternating planes (strictly vertical down, +10° forward oblique, -10° backward oblique). Additionally, the wide field of view enables users to fly parallel to the asset (i.e. side-looking scanning) as opposed to directly over the target. This ability significantly increases safety for applications such as mapping of power line networks.

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Meanwhile, the miniVUX-3UAV is an extension of the already proven miniVUX series. This compact and lightweight sensor will now have a 300kHz PRR measuring programme in addition to the already existing 100kHz and 200kHz measuring programmes. This allows up to 300,000 measurements/second at a field of view of 120° and thus a denser point cloud, which enables survey drones to reliably detect even the smallest objects. Like its sister models (miniVUX-1UAV and -2UAV), the miniVUX-3UAV can be combined with various IMU/GNSS systems and camera options to optimally match the requirements of the special application. It is also ready to be used with the RIEGL Integration Kit 600 – a hardware extension for easy integration with multirotor drones.

Airborne laser scanning innovations

RIEGL is also offering innovations in the field of airborne laser scanning (ALS). With the VPX-1 Helicopter Pod, a laser scanning system optimized for use on manned helicopters is now available that offers the ideal performance parameters for applications such as the precise surveying of power line routes or the mapping of urban areas. The new aerodynamically optimized pod is equipped with a RIEGL VUX-240 laser scanner and up to three high-resolution digital cameras as well as an IMU/GNSS unit, allowing quick system installation and removal using standard hard points and typical camera mounts of helicopters. The effective pulse repetition rate of 1.5 million measurements per second and the optimally adjusted alignment of the cameras (forward/nadir/backward) enables the provision of highly accurate measurement and image data.

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With the new VQ-1560II-S RIEGL presents another version of the successful dual channel waveform-processing airborne laser scanning system for acquisition of extremely dense, highly accurate point clouds. Thanks to increased laser power, operational altitudes of up to 1,600m AGL at a pulse repetition rate of 4MHz or up to 4,000m AGL at 540kHz PRR are possible, which results in a significant increase in efficiency when scanning large areas. By fine-tuning the PRR in 12kHz steps, the acquisition parameters can be set exactly according to the most diverse project requirements.

The company believes that the unique scan pattern of intersecting scan planes and the various possibilities of parameterization make the device one of the most versatile airborne laser scanners available on the market today. It is perfectly suited for a wide range of applications – from precise corridor mapping to detailed city mapping with minimal shadowing effects in narrow street canyons, to large-area mapping with highest efficiency of up to 1,130km²/hour at a density of 4 points per square metre.

Intergeo 2020 Digital

RIEGL is presenting these innovations as well as further developments in the fields of terrestrial laser scanning (TLS) and mobile laser scanning (MLS) at its virtual exhibition booth at Intergeo 2020 Digital from 13-15 October 2020.

All visitors to the virtual RIEGL booth can expect a comprehensive program of presentations around the latest product innovations.

The virtual event makes it possible for the first time to offer a round-the-clock programme. The individual RIEGL presentations will be given several times in the RIEGL Lecture Rooms (L1 and L2) each day so attendees can choose the most convenient date and time. After each presentation, the RIEGL laser scanning specialists will be available for discussions and Q&A.

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