

Newly Launched Leica GNSS RTK Rover Equipped with Visual Positioning



Leica Geosystems, part of Hexagon, has unveiled the Leica GS18 I, a versatile, GNSS RTK rover with visual positioning. The GS18 I allows users to capture points of interest from a distance and measure points from the images in the field or in the office.

Visual positioning technology – sensor fusion combining GNSS, IMU and a camera – allows users to reach previously

inaccessible or obstructed points safely and efficiently. Visual positioning is based on photogrammetric technology with near real-time data processing, allowing surveyors to check the quality of their data while on site.

“The [GS18 I](#) and the workflow in Infinity opens even more new possibilities for us to capture and measure everything we need. It can help fill the data gaps common with traditional GNSS systems that often require supplemental field locations with a total station to complete an area being surveyed. Now you can have one piece of equipment to carry out several jobs on site with fewer equipment setups,” said Donald Smith, P.L.S., senior project manager and principal at BL Companies. “The survey is performed more efficiently as the GNSS crew can capture all detail, even areas with limited access. No data is missed because points can be extracted through Infinity later in the office.”

GNSS RTK Rover with Integrated Visual Positioning

The GS18 I continues the success of the tilt-compensated Leica GS18 T rover. In addition to visual point positioning, the GS18 I inherits all the functionalities of a GS18 T, including the ability to map and stake out points with either tilted or levelled pole.

“We designed the GS18 I for surveying professionals who need to measure points that previously could not be measured easily and accurately with GNSS and for those who want to capture the environment quickly and decide later which points shall be measured,” said Bernhard Richter, vice president of geomatics at Leica Geosystems. “With this world’s first GNSS RTK rover with integrated visual positioning technology, Hexagon brings GNSS technology to new user segments while increasing safety, speed and productivity.”

GS18 users can use less time on site and continue measuring points with Leica Infinity software in the office, saving expensive on-site time. If new measurement needs arise, surveyors can measure additional points from the captured images. The GS18 I works with Leica Captivate field software for image capturing, on-site point measurement and quality assurance in the field. Users can go beyond measuring points and create an automatically registered and referenced 3D point cloud from the same images and continue working in other 3D software.



Mapping with the Leica GS18 I, Seattle, USA.