Emesent Launches Three Mapping Solutions for Digital Twins and BIM

At Intergeo, Emesent launched three new products that will help geospatial professionals save time while capturing accurate data for digital twins and BIM applications. Emesent is a pioneering company in drone autonomy, Lidar mapping and data analytics.

The products include Hovermap ST-X, a new Hovermap variant with improved accuracy and a 300m sensing range, a long-range radio add-on which further increases the communication range with Hovermap by up to 20 times, and Emesent's Aura platform which offers an integrated SLAM processing and point cloud visualization environment for Hovermap users. "We're excited to launch these products which together will allow our customers to capture dense, accurate 3D data in large, complex areas in less time, and view the results in exquisite detail to derive new insights," said Dr Stefan Hrabar, CEO and co-founder of Emesent.

Extending the Reach of Autonomous Lidar Scanning

Hovermap ST-X is the newest edition of Emesent's award-winning Hovermap autonomy and mapping device. It incorporates the latest in Lidar sensing technology to offer high-density point clouds with increased coverage and improved accuracy. Featuring a sensing range of 300m, triple returns and more than a million points per second, it captures detailed, accurate data over a greater area in less time. Customers scanning large areas for mining, construction and forestry will benefit from these features, providing faster time to insight.

The improved Lidar sensor accuracy, award-winning Wildcat SLAM algorithm and optional automated ground control points deliver results with sub-centimetre accuracy. The increased accuracy and density also benefit close-range indoor scans of buildings, industrial plants and other assets for floor plans and scan-to-BIM applications.

As with previous variants, Hovermap ST-X provides advanced drone autonomy to scan inaccessible GPS-denied areas or can be used for handheld, backpack or vehicle-mounted scans. The weather-sealed IP65-rated design also allows it to be used in wet or dusty conditions. "Hovermap ST-X is sure to be a valuable tool for geospatial and asset inspection professionals," said Andre Broodryk, vice president of product at Emesent. "It provides them with a versatile scanning solution for capturing large outdoor areas or complex indoor spaces."

Fast-tracking Inspections and Surveying

Emesent's Long Range Radio accessory attaches to Hovermap to further increase the connectivity range by up to 20 times (up to one kilometre for above-ground line-of-site flight applications). "Our Long Range Radio allows operators to reap the full benefits of Hovermap ST-X's autonomy and mapping capabilities and extend the range of its applications," added Broodryk. "It's also compatible with Hovermap ST, so existing customers will benefit too." The Long Range Radio saves operators time in the field with the ability to scan large, complex environments in a single flight while retaining the communication link to update waypoints and preview the point cloud coverage during flight. This removes the need to scan from multiple locations or to merge datasets in post-processing.

Simplifying 3D Laser Scanning Workflows

Aura, Emesent's integrated processing, visualization and analytics platform, provides a streamlined workflow for Hovermap users to process their data, view the results, clean datasets and take measurements to derive insights and make decisions. Aura's visualization engine has been optimized for the dense, detailed point clouds produced by Hovermap ST and ST-X. Users can view point clouds with more than a billion points at full resolution to ensure crucial details and insights are not missed. "Aura delivers a solution that makes the user's workflow seamless and hassle-free, no matter how large or numerous the datasets, dense the point clouds or complex the 3D structures are," Broodryk commented. "Aura also lays the foundation for future point cloud analytics modules that we're developing."

The Hovermap ST-X provides advanced drone autonomy to scan inaccessible GPS-denied areas or can be used for handheld,

backpack or vehicle-mounted scans. (Courtesy: Emesent)