

Adding a New Level of Reality Capture to 3D Point Clouds



Global technology company Emesent has announced the release of the colourization functionality for its Hovermap Lidar scanner. The 3D point clouds from Hovermap can now be augmented with true colour, providing additional context for visualization and analysis.

"We're excited to announce this significant new feature for [Emesent](#)," said Emesent's CEO and co-founder Stefan Hrabar.

"Colourization provides greater insights for our customers across many industries. This builds on the incredible 3D data that Hovermap produces to create rich, accurate digital twins and surveys."

The new colourization feature for Hovermap utilizes the latest rugged action camera – the GoPro Hero8. This modular approach extends the versatility and flexibility of Hovermap, allowing customers to attach the camera when colourized scans are needed.

Multiple Devices

As before, Hovermap can be used on a UAV, as a handheld or backpack mounted scanner with the supplied handle or a range of other accessories. When the camera is attached, Hovermap is just as versatile but with the added benefit of providing colourized scans.

Scanning and data processing remain easy. Hovermap and the camera are started with the push of a button, and after capture the Lidar and video data are processed via a drag-and-drop workflow. For advanced users, a vast range of parameters are also made available to further adjust processing and output options.

"Combining camera and Lidar data from a moving scanner is actually a very challenging task and requires precise calibration and synchronization between the two sensors," explains Dr Farid Kendoul, CTO and co-founder of Emesent. "We've developed advanced algorithms to handle this complexity, keeping it simple and easy for our customers to use. The results are really amazing to see."



Hovermap with GoPro camera (drone version).

Side-by-side

In addition to producing a colourized point cloud, the process also outputs a set of images and image pose data (position and orientation relative to the point cloud). This allows the Lidar data and images to be imported into a variety of third party tools to be shown side-by-side.

The new colourization feature has already been tested by a number of users at various sites, producing impressive results.

"We found the Hovermap colourization option very easy to use and it has generated great results," said Alex Paulusson, CEO of Swedish geodata and remote sensing specialists [AMKVO](#). "Having the ability to simply attach the camera as needed is a great feature too. This will add a new and valuable dimension to our clients' Hovermap scans."