



emesent Aura

EMESENT'S INTEGRATED
PROCESSING AND
VISUALIZATION
SOFTWARE **SIMPLIFIES**
3D LASER SCANNING
WORKFLOWS FROM
CAPTURE TO INSIGHT

Emesent Aura allows the processing and visualization of scans in one intuitive platform, streamlining the way Hovermap users process, view, and analyze point clouds for faster insights and improved decision-making.

SLAM-based mapping is known for its speed, ease of use, and ability to capture shadowless, dense point clouds. As use cases grow and point cloud sizes increase, efficiently processing, viewing, and analyzing the data becomes challenging. Aura makes your workflow seamless no matter how dense your point clouds or complex your 3D structures.



Optimized viewing
of Hovermap's high
density datasets



Save time with job
queueing for set
and forget point
cloud processing



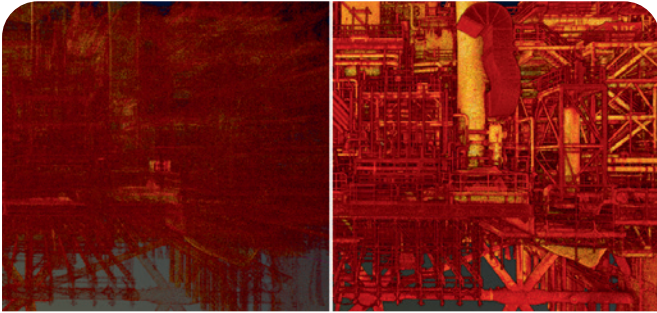
Automated high
density point cloud
cleaning removes
noise and stray points



Processing and
viewing in a single
system for faster
time to insight

ACCURATE, RAPID RESULTS

Process, view, clean, edit, and take measurements from Hovermap point clouds in a single streamlined application. Automate previously manual and error prone tasks to improve the quality of analysis and for better decision-making.



VISUALIZE EVERY DETAIL - EVEN FOR COMPLEX ASSETS

Multi-Frame Rendering efficiently visualizes your point cloud in the highest detail, no matter how dense the points or complex the asset, giving you deeper insights.

RELIABLE, HIGH QUALITY PROCESSING

Processing powered by the world's leading SLAM algorithm converts your data into highly detailed, accurate point clouds, with features to further improve point cloud accuracy.

SEAMLESS AND HASSLE FREE WORKFLOW

A SINGLE, STREAMLINED APPLICATION WORKFLOW

Don't waste time switching between applications to process and view your data. Aura consolidates it all in one platform, with the ability to export to widely-used industry file formats and CAD packages.

INTUITIVE AND RESPONSIVE INTERFACE

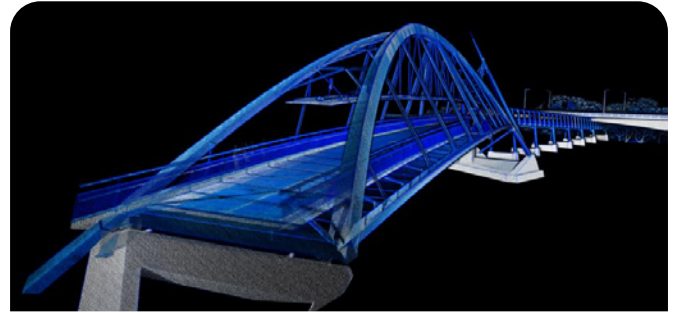
Aura's simple navigation and intuitive workflows make it easy for users of all levels to process, visualize, analyze and export their data.

EFFORTLESSLY MANIPULATE POINT CLOUDS FOR IMPROVED ANALYSIS

A range of 3D tools allows you to easily manipulate point clouds, reducing the risk of error and improving analysis.

PROCESS, VISUALIZE AND ANALYZE SIMULTANEOUSLY

Aura gives you the ability to toggle between open point clouds, so you can work on multiple scans at the same time as you are processing, improving efficiencies and saving you time.



IMPROVED OUTPUT QUALITY

Clean your point cloud at the touch of a button with SOR (Statistical Outlier Removal) and DBD (Decimate by Distance) filters. Georeference your point cloud with confidence, thanks to Automated Ground Control alignment (optional) and accuracy reports.

REAL-WORLD COLORIZATION

View scanned features with true-to-life realism and ensure easier interpretation of objects with enhanced point cloud colorization.

AUTOMATED POINT FILTERING.

Aura's set-and-forget processing visibly improves the output quality of high-density point clouds with automated filtering of noise and stray points.

SAVE TIME WITH PERSONALIZED PROFILES

Create customized profiles, or reuse existing profiles to process scans with minimal configuration.

SAVE TIME WITH JOB QUEUEING

Job queueing allows for automatic, sequential processing of files, allowing you to spend your time more productively.

EASILY SHARE KEY DETAILS

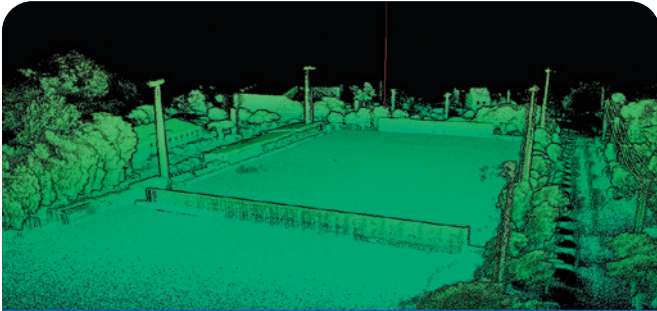
Export high resolution screenshots from within Aura at the click of a button to share outputs in a stakeholder friendly format to improve their understanding and gain buy-in.

COLOR SCALE FILTERING

Uncover hidden details and improve visualization and analysis by applying pre-set filters based on specific attributes, including elevation, position, intensity, time and range.

GEOREFERENCED AND HIGHLY ACCURATE SCANS

Aura offers georeferencing features to bring a higher level of accuracy to your Hovermap scans and enhance the capabilities of SLAM (Simultaneous Localization and Mapping) based mapping to extend scanning opportunities and use cases to long, large, and feature-poor assets such as roads, stadiums, and tunnels.



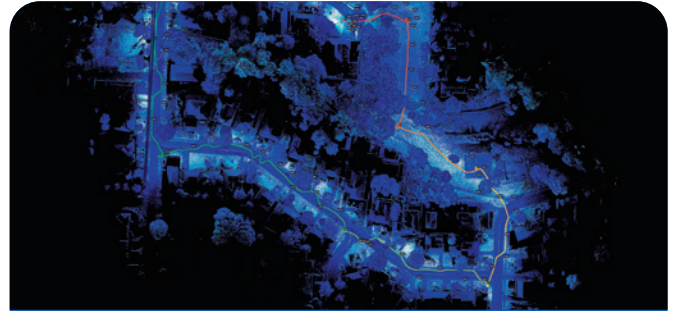
REAL-TIME KINEMATICS

Aura Real-Time Kinematics (RTK) allows you to scan on demand without the need to lay out or georeference ground control targets - accelerating time from scan to insight for your above ground Hovermap drone scans.

The simplified, fast tracked workflow automates the creation of accurate, georeferenced point clouds in large or low feature environments or areas where ground control targets are not feasible.

Automatic drift correction delivers higher quality results for repeat scans over the same area and enables changes to be easily detected.

Scanning with RTK requires a base station and receiver and a Hovermap integrated drone.



AUTOMATED GROUND CONTROL

Aura's Automated Ground Control enhances the capabilities of SLAM-based mapping.

Scanning is streamlined with automated target detection, enabling non-stop scanning. During processing, Automated Ground Control uses machine learning to automatically detect the reflective ground control targets in the scan and uses these to both georeference the point cloud and improve accuracy. After running Automated Ground Control, you can validate your target alignment with a GCP Accuracy Report.

Emesent Ground Control targets are required to use Automated Ground Control.

MORE REALISTIC POINT CLOUDS

Aura's Colorization adds a new level of reality capture to your 3D point clouds for deeper environmental insights. Augmenting point clouds with true color provides additional context, more clarity, and realism to achieve greater insights across a variety of applications.

Reveal previously hidden details in your critical infrastructure to highlight surface degradation, cracks, or other flaws, even in areas that may not be readily accessible or without GPS access.

To colorize your scan, simply attach a rugged action camera to Hovermap with our custom quick-release mount. This modular approach extends the versatility and flexibility of Hovermap, allowing you to capture colorized scans as needed.



INTEGRATED PROCESSING AND VISUALIZATION SOFTWARE

AURA FEATURES AND BENEFITS



A single streamlined application workflow

Process and visualize your data in one intuitive platform.



Multi-frame rendering

Proprietary visualization algorithms enable seamless manipulation of large point clouds. Visualize your point cloud in the highest detail, providing deeper insights.



Reliable, high-quality processing

Processing powered by the worlds leading SLAM algorithm, converting your data into highly accurate point clouds.



Export to a range of formats output in LAZ, LAS, PLY & E57

Output the processed point cloud data to LAZ, LAS, PLY and E57 into your required file type.



Point Cloud Cleaning Tools

Clean point clouds automatically during processing or quickly remove noise and outliers with one-click post-processing filters.



GPS Auto-Geolocation

Automatically align scans to GPS coordinates when Hovermap is mounted to a compatible drone.



3D Tools for Improved Analysis

A range of 3D tools allows you to easily manipulate point clouds, reducing the risk of error and improving analysis.



Batch Processing

Save time by queueing multiple jobs to process automatically in the background.



Automated Ground Control (GCPs)*

Automated georeferencing and survey grade accuracy enhancement.



Colorization*

Enhance visualization and analysis by adding true color to Hovermap point clouds.



Point Cloud Merging

Combine multiple point clouds to produce a single seamless scan.



Personalized Processing Profiles

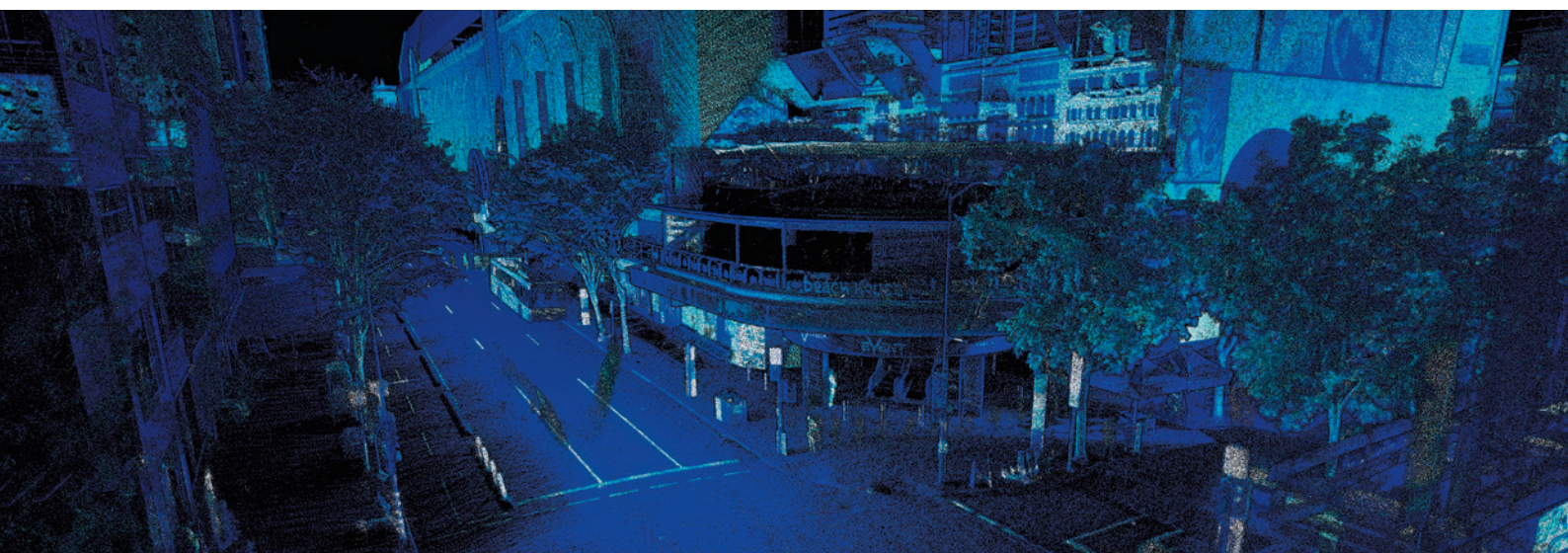
Create customized profiles or reuse existing profiles to process scans with minimal configuration.



Real-Time Kinematics (RTK)*

Automated georeferencing and SLAM correction enhancements for above ground drone-based scans without the need for CGPs.

*Requires additional hardware to enable features.



Take a deep dive into Emesent products in the **Emesent Academy**. Log in to the customer portal to again access at www.emesent.com

Scan to learn more about Aura

