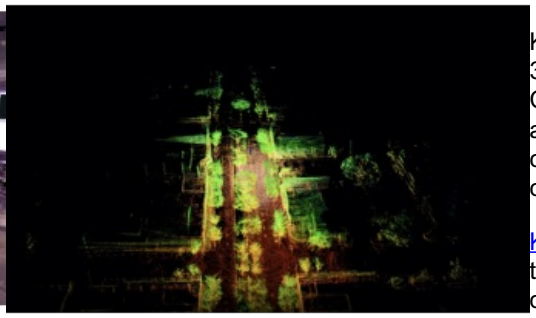
Kaarta Introduces New Solution for Large 3D Datasets



Kaarta, the innovator of real-time mobile 3D reality capture, has announced Kaarta Cloud, a new solution to process, store and share 3D spaces. It provides a fast, convenient and flexible workflow from field capture to finished data.

Kaarta Cloud offloads the heavy lifting of the crucial processing of large 3D datasets. It offers the horsepower of an ultra-high performance parallel-processed network to tackle the load of processing massive reality capture files, far surpassing the computing power available on any local workstation or Kaarta device.

SLAM and cloud-based processing

Under the hood is Kaarta Engine, Kaarta's patent-pending advanced 3D mapping and localization algorithms, providing highly accurate and robust maps. The marriage of Kaarta Engine's advanced approach to SLAM (simultaneous localisation and mapping) with the power of cloud-based processing is a powerful solution for today's reality capture professionals.

Kaarta Cloud allows users to increase the utilization rate of their Kaarta system by freeing up the device to perform additional scanning. Workflows can be defined through a chain of tasks and executed with one button click, and multiple jobs can run concurrently for ultimate efficiency.

Kaarta Cloud was designed from the ground up to work effortlessly with all Kaarta systems including Contour, Stencil 2-16 and 2-32, and the new Stencil Pro. The uploaded files are automatically recognized by Kaarta Cloud and point cloud data can be optimized with an array of functions including filtering, loop closure, alignment to GNSS trajectory, colourization and conversion.

Processing raw Lidar into a point cloud map

In addition to working with data captured with Kaarta systems, Kaarta Cloud also processes data collected with Lidar sensors. While Lidar generates massive amounts of raw points of data, all of that data is ephemeral and relative to the sensor itself. Since Lidar is only line of sight, there are limited views of an environment or project. Kaarta Cloud uses the sophistication of Kaarta Engine to process raw Lidar data into a registered point cloud map, providing a persistent framework to the data which can be viewed, measured and further processed in one multi-vantage environment.

Kaarta Cloud provides high capacity storage and retrieval of all of the data. Its comprehensive workflow is designed to optimize operations, extract the maximum value from scans, and facilitate data sharing and collaboration through its secure cloud storage platform. Plus, users never have to worry about software upgrades; Kaarta Cloud will automatically incorporate the latest Kaarta software enhancements.

Kaarta Cloud uses Kaartaâ€™s proprietary Kaarta Engine to process raw Lidar data into a registered point cloud map.

Ready-to-use optimized point cloud

Alberto Raschieri, director of Italian architectural and topographical surveying company GeoMar, was a beta tester for Kaarta Cloud. "Using Kaarta's advanced mobile mapping system, our field survey capture is already agile and fast," said Raschieri. "Now the additional comprehensive processing such as geo-referencing that our jobs require is all handled by Kaarta Cloud. When we return to the office, the optimized point cloud is ready to be used. The entire operation from start to finish is incredibly efficient and effective."

"We're so excited to bring Kaarta Cloud to market. This platform for supporting digital twin creation is the most effective way to securely and efficiently optimize scans from both Kaarta devices and lidar sensors," said Kevin Dowling, Kaarta CEO. "What's more, it will be expanded to turn the captured and processed point cloud data into answers that owner operators and other stakeholders need to manage their assets, whether that be 3D models, floor plans, slope analysis, volume analysis or seamless integration with other workflow platforms."