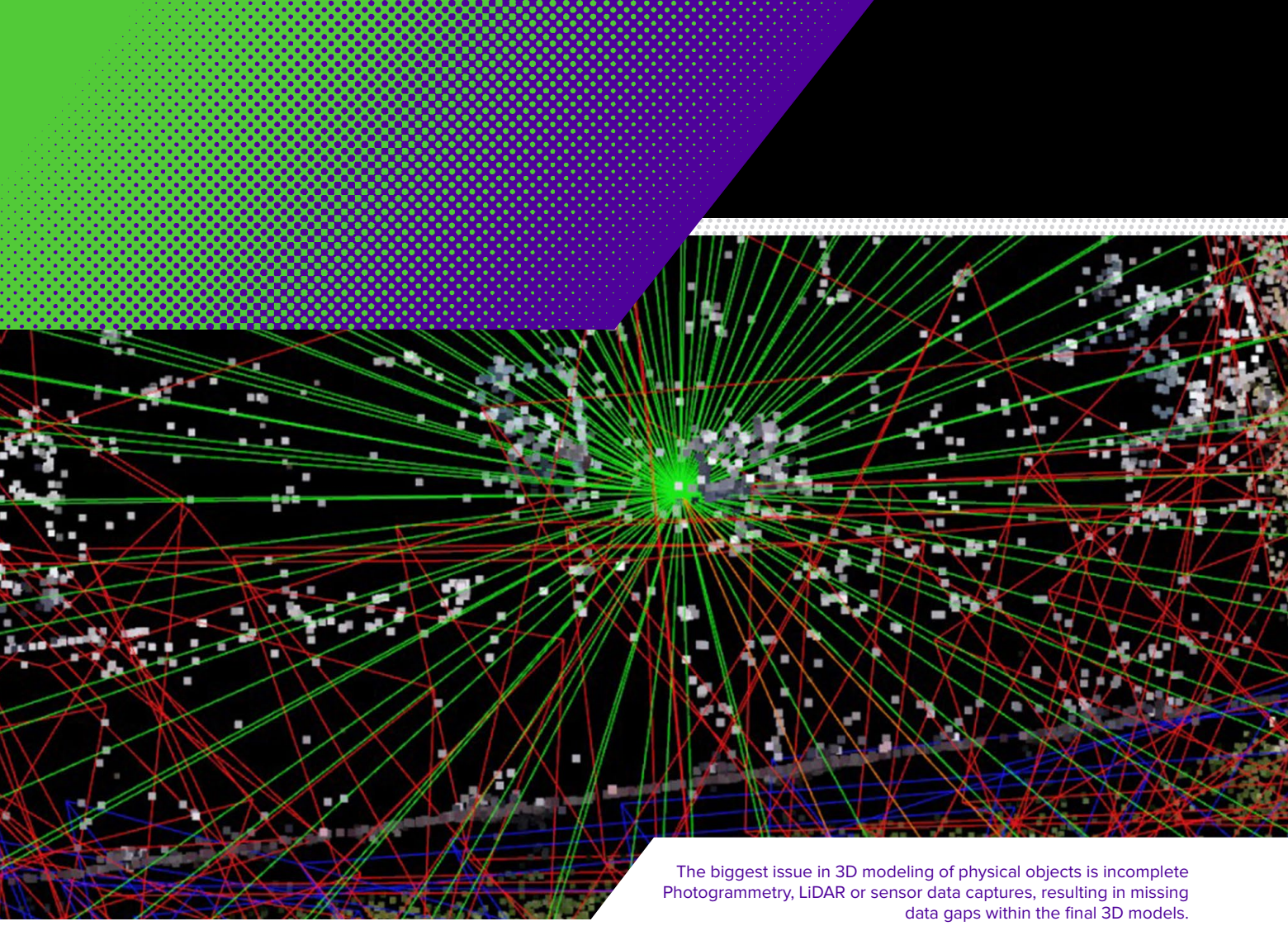

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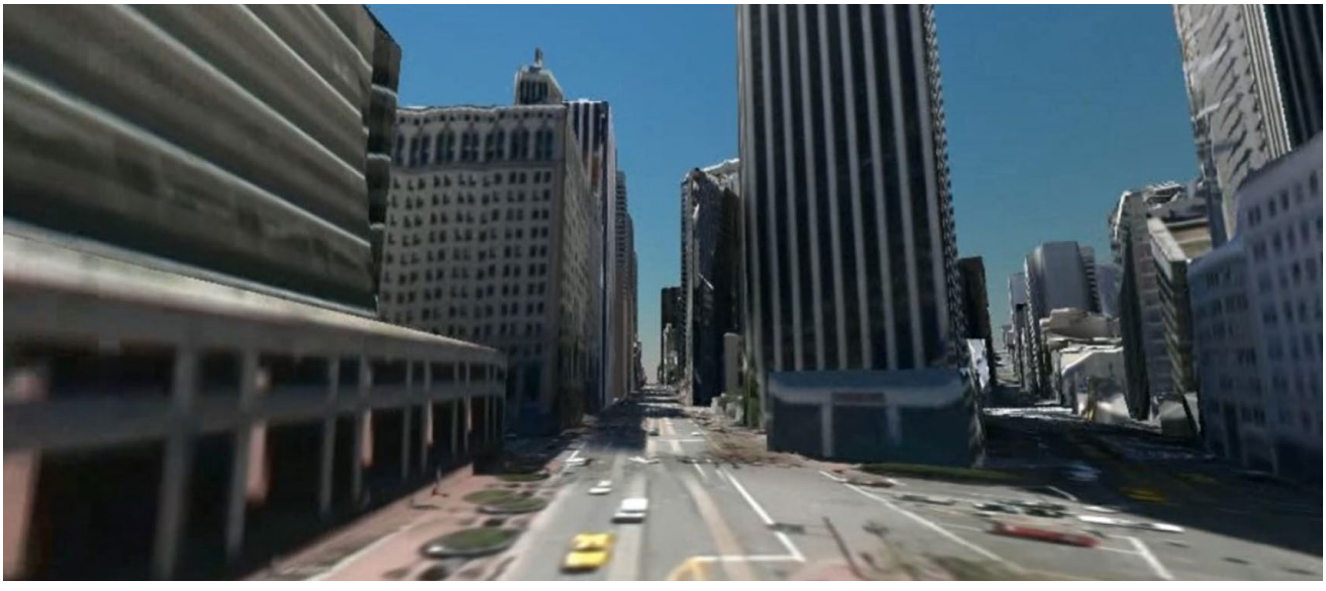
Simultaneous Location and Mapping for 3D Modeling of Objects

BY KARL ENGSTROM

Terra Imaging is pleased to announce an exciting 2016, focusing on Autonomous UAS, UAV and Drone Flight Navigation Systems that specifically target the challenges of 3D structural, 3D facilities and 3D object modeling. Ed Gambler, Senior 3D Engineer for Terra Imaging states: "The biggest issue in 3D modeling of physical objects is incomplete Photogrammetry, LiDAR or sensor data captures, resulting in missing data gaps within the final 3D models. These missing data gaps are easily visible as rounded or distorted features such as wavy edges or black holes in overhanging architectural structures. We believe our drone navigation software and "real time", geospatial processing technologies are now able to recognized and fix the data capture gaps and flight management issues in "real time" during the drone mapping mission."

Karl Engstrom, CEO of Terra Imaging explains the integration of SLAM (Simultaneous Location and Mapping) methodologies in their flight navigation and geospatial data processing software. Engstrom states: "We found out long ago working with Google Earth and Microsoft Virtual Earth that precision flight plans, with precision data capture are the pinnacle variables to accurately map the world in 3D. Moreover, now with the drone revolution providing low altitude data collection, producing higher resolution datasets, using higher resolution photogrammetry and LiDAR sensors... it's a win-win for us, higher resolution, super dense data allows us to produce better mapping, geospatial engineering,



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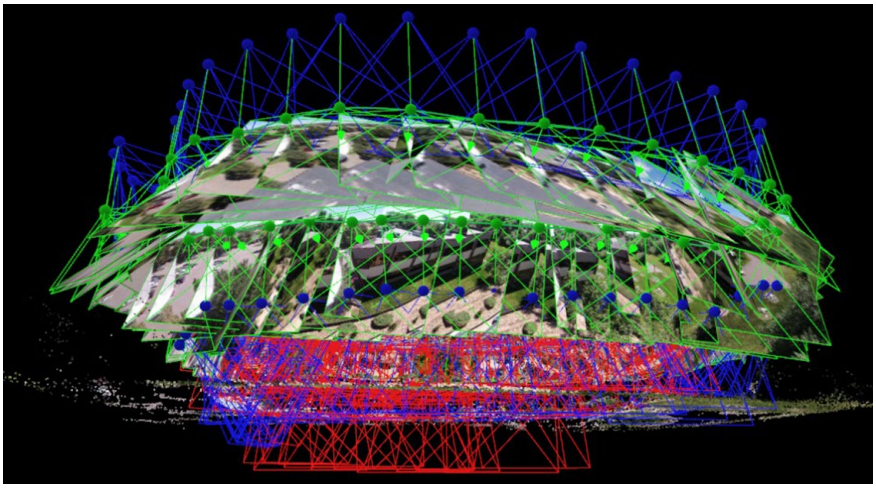
3D gaming (Reality Capture, AR - VR) products. Clearly, this drone revolution is once again producing data as a commodity and a "Big Data" play, focusing on autonomous ground and airborne mapping operations."

Engstrom further comments: "Looking at 2016, Terra Imaging's focus is on commercial UAV mapping, aerial cinematography and, 3D geospatial data processing with our new, One Drone Cloud platform. The One Drone Cloud technology team is focused on deploying drone flight navigation software, implementing SLAM methodologies for geospatial data collection, analysis and "real time" 3D structural, 3D environment and 3D object modeling.



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We believe the time is right for integrated AI (artificial intelligence), UAV autonomous navigation, and airborne SLAM methodologies to fully empower the drone industry. This technology revolution is taking advantage of fast, drone deployment, fast data collection and fast data processing all collectively producing an extraordinary time to be in the airborne mapping and cinematography industry.

In summary, it's an exciting time for the geospatial industry, especially for the insiders who have seen this before with fixed wing planes, helicopters and million dollar mapping cameras and LiDAR sensors... Our industry, friends and colleagues have come a long way in the last 16 years."

For more information please visit:
Terra Imaging—www.terraimaging.com
One Drone Cloud—www.onedronecloud.com

Karl Engstrom is CEO, Terra Imaging.