Unmanned Aerial Systems: Next Generation Sensors and Applications

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Abstract

UAS technology has the potential to bring saving and efficiency and most important 3D real world data to Geoscientists, from aerial imaging for inspections and photogrammetry and LiDAR for mapping. The UAS provides a platform for the collection of spatial data with unprecedented accuracy and precision. Facilities, as well as land and its subsurface, can be digitally modeled and studies via VR interface, in order to provide the perspective required by the energy industry. Environmental and economic challenges created by the exploitation of natural resources now require a quantified approach to risk mitigation in often complex areas of high consequence. In this presentation, I will discuss some of the hardware and software infrastructure available and deployed by our company such as the surveying drones and complementary tools and processing of the captured data for analysis, prediction, and visualization. Allowing for remote viewing through internet portals the end users, I will also present examples of how these components are combined and used by groups in the field and the board room to enhance and streamline their efforts in modeling their real world assets for near real time situational awareness.