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The Use of Unmanned Aerial Vehicles for Façade Surveying Application in Sri Lanka

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Unmanned Aerial Vehicle-systems (UAVs) or Drones have reserved an important place in the construction and engineering industries over the last few decades. Drones are employed in various parts of the construction and engineering industries, including project creation, project management, and inspection, construction surveying, construction safety, construction inspection, volume measures, modeling in 3D, and other related services. UAV technical advancements and structure from motion methodologies have resulted in UAVs being typical platforms for 3D data collecting. Drones appear to be an ideal choice for urban applications due to their flexibility and capacity to reach inaccessible urban areas. Reconstructions from drone data have the potential to drastically reduce labor costs for rapid upgrades of already reconstructed 3D cities. However, a rigorous quality assessment is required, particularly when updating existing scenes acquired from different sensors. Many authorities demand as-built surveys to prove the placement of a facility at a specific moment in time. These are vital for the site's upkeep and future expansion. A total station was employed to accomplish this task in the past, but it is more expensive, time consuming and requires more qualified surveyors to complete. The objective of this research is to examine the use of an Unmanned Aerial Vehicles (UAV) system for façade surveying in Sri Lanka. The findings demonstrate that the UAV's ability to produce as-built survey mapping, and that it also simplifies as-built survey work by saving time and eliminating the need for trained surveyors. As a result, UAVs are ideal for engineering tasks.

Keywords: *unmanned arial vehicle, orthomosaic, Structure From Motion (SFM)*