



The smart management of “construction site” in a post-seismic scenario using UAV photogrammetry

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During the post-seismic reconstruction phase in L'Aquila, the presence of many construction sites at the same time highlighted different problems related to their management, especially in historic centres where the lack of space affects the construction sites management. In this cases it's important to optimize the space management in order to support the people in charge of design the reconstruction site plan. A big challenge is represented by to find appropriate space devoted to the materials and ruins storage, the management of ancillary services and to coordinate the simultaneous presence of trucks in narrow streets (typical of historic centres) with limited access.

This work describes how the UAV photogrammetry can be effectively used to analyse the construction areas and the surrounding in order to improve the logistics and to detect the interferences in the construction sites like for example the presence of several cranes that need to be operated at the same time.

Furthermore, the photogrammetry technique is extremely useful also during the execution phase of the project in order to monitor the development stages inside the building site and the relative developments layout configurations.

This work presents a case study related to the use the UAV photogrammetry technique to support the reconstruction phase of several construction sites at the same time in the historical centre of Villa Sant'Angelo in L'Aquila. This approach allows different prospective, economic, timing and safety for the construction sites itself.

Furthermore, the obtained 3D models may represent the first informative layer for the innovative BIM system devoted to support the management of the reconstruction sites.