IMMS vs Static LiDAR Survey to Extract Bim Models of Social Housing Buildings: a Case Study

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SUMMARY

Since 2021 Italian Government has introduced a large National program (known as "110%") to financially support the renovation works of Italian residential buildings. The program is mainly finalized to improve the energetic leve and the seismic quality of the buildings. To be eligible for funding, as well as the obvious support of the Design activities, an accurate 3D survey is required. In particular for projects involving large assets, the managing companies have the need to convert the 3D survey into a finalized and structured 3D CAD object as a basis for cost estimation and BIM design of the adaptation works. The surveying and modeling costs, can have an important impact of the global costs, and for this reason fast mapping solutions as iMMS have been tested to check if these instruments can satisfy the accuracy needed for the renovation activities. In particular several field tests have been carried out to verify is the iMMS approach can satisfy the BIM modeling needs compared to the models obtain thanks to the use of the TLS technology. The paper presents how the survey of the building characteristics was carried out, describing the LiDAR detection approaches, highlighting the main differences and effectiveness according to the needs and design procedures that the client intends to implement.

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