

Construction Sites Advancement Monitoring by Indoor Mobile Mapping Systems or by TLS: the Gioa22 Skyscraper Case Study

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SUMMARY

The construction progress monitoring is starting to have an important role in the management and organization processes in construction sites. Various technologies are actually proposed to run the automatic or supervised automatic processes to acquire the state of the art of the construction phases finalized to update the construction sites managing platforms. This paper presents the experience of applying iMMS slam based solutions and TLSs instruments to monitor the state of advancement of the construction phases in a skyscraper construction site in Milan (Italy). In particular the results of innovative double sensors wearable mobile mapping slam based sensors and by Terrestrial Laser Scanner instruments are compared. The analysis shows how the accuracy of iMMS SLAM sensors is enough to provide the same results of tripod Lidar sensors. To run the progress monitoring process in software platforms as Verity by ClearEdge, the 2/3 cm accuracy provided by the mobile instruments can be enough. Not the same can be said for the as built case as designed analysis, that requires the mm accuracy provided by TLSs sensors.

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