

Application of 3D Terrestrial Laser Scanning for Measurements of Buildings, Situated in Area, Covered with Bushes – Technical Difficulties, Solutions and Implementation

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SUMMARY

3D terrestrial laser scanning and its possibilities in data processing offer a number of various available solutions for each specific case in the geodetic practice when measurements are required. The aim of this case study is to give details about:

-the activities in the field, which were done for performing of geodetic measurements for buildings, situated in area, covered with bushes;

-the technical difficulties, which were met and the relevant solutions;

-the way of processing the raw data.

3D terrestrial laser scanning was chosen as a technology for performing of geodetic measurements due to the following main reasons:

-the time span for performing of the measurements could be chosen and set in the scanner;

-the object /buildings/ consists of a number of edges (detailed points) to be measured;

-the elimination of human-based errors;

-the possibility to obtain significant accuracy in the point determination in a reasonable time in the field;

-available photorealistic information in the

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data.

The paper studies the decisions, taken in the field in order to be created one point cloud of the object, taking in mind the specific terrain conditions. In this case study was described in details the procedure for creation of georeferenced point cloud, according to the existence of bushes.

Assessment of the accuracy of the geodetic measurements was done. Screenshots with the information, which describe the performed way of field work and data processing results are also given.

Conclusions and recommendations for future work are included in the paper.

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