Application of Terrestrial Laser Scanning Technology for the Purpose of Creating 3d Models of Objects

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SUMMARY

Modern development, increased capabilities and performance of software and hardware products have caused higher standards in many spheres of work and business, including construction, design and reconstruction of facilities. Efficient collection of three-dimensional data in less time and with less resources has become imperative in maintaining business competitiveness. The methodology of terrestrial laser scanning enables the creation of detailed 3D models of objects and areas of interest over which it is possible to conduct various analyzes, calculations and create additional necessary products. The case study in this paper presents a scanning of the facade and interior of a seven-storey building (basement, ground floor and 5 floors) with a TLS (Terrestrial Laser Scanner) and data processing of the realized scanning. Scanning using TLS was performed in order to obtain a 3D model of the object for the needs of reconstruction, i.e. designing a new state of both the interior and exterior of the building, and as a basis for the development of BIM (Building Information Model). The final product of the case study analysis will be elaborated complete project implementation methodology that covers all phases of the project flow, from the initial one which includes planning of scanning using TLS to the final one in which the final results of the applied technology are reached.