

RELIABILITY OF TERRESTRIAL LASER SCANNER FOR THE  
MULTI STOREY BUILDING MODELLING

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## DECLARATION

I declare that the work on this project/dissertation was carried out in accordance with the regulations of Universiti Teknologi MARA (UiTM). This project/dissertation is original and it is the result of my work, unless otherwise indicated or acknowledged as referenced work.

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## **ABSTRACT**

This research is about Terrestrial Laser Scanning (TLS) that has emerged as a promising technology for capturing accurate and detailed data of complex architectural structures, particularly multi-storey buildings. As the demand for precise as-built documentation grows in fields such as architecture, engineering, and heritage preservation, the reliability of TLS becomes a critical consideration. This research abstract presents an overview of the method and procedure that involved in establishing the reliability of TLS for multi-storey building modeling. Multi-storey buildings present a unique set of challenges due to their intricate geometries, varying building materials, and diverse environmental conditions. Ensuring that TLS measurements are accurate and consistent across different levels, materials, and surfaces is essential to establish its reliability. This research employs a combination of field measurements, data analysis, and comparative studies. Multi-storey buildings with varying architectural styles and materials will be selected for scanning using TLS. The collected point cloud data will be processing and analysis to assess the accuracy. Comparative analyses will be conducted between TLS generated models and traditional surveying methods which are using distometer and total station as prove of bench marks to validate TLS reliability. The outcome of this research will contribute to prove the reliability of Terrestrial Laser Scanner for Multi Storey Building Modelling.

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