UNIVERSITI TEKNOLOGI MARA
PERAK BRANCH

SMART SAFETY LADDER

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BSc

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AUTHOR'S DECLARATION

I declare that the work in this innovation project report was carried out in accordance with the regulations of Universiti Teknologi MARA. It is original and is the results of my own work, unless otherwise indicated or acknowledged as referenced work. The topic has not been submitted to any other academic institution or non-academic institution for any degree or qualification.

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ABSTRACT

The construction industry has embraced IBS as a means of improving building quality and productivity, decreasing occupational safety and health (OSH) hazards, relieving problems for trained employees and reducing reliance on manual foreign labour, and ultimately lowering total construction costs. The Industrialized Building System (IBS) is becoming more popular in the building industry due to the many benefits it offers. However, the use of ladders on construction sites has remained unchanged. Every year, it continues to result in injury or death because of the problems come from ladder or worker's attitude. Therefore, a new invention known as the Smart Safety Ladder was developed to address the difficulties associated with ladder use as well as existing ladder issues. The objectives of this report are materials, design and marketability were observed. Desktop research and simulations are being used to assist in the development of the concept. On the basis of performance, it has been found that the Smart Safety Ladder outperforms the existing ladders, showing that it is safer and more convenient, while also demonstrating that the characteristics of the Smart Safety Ladder are beneficial. To determine the marketability of the new product, an online survey was performed, and the vast majority of those who participated agreed that the product should be introduced to the public market. To put it simply, the Smart Safety Ladder has a marketable value since it will aid in the reduction of injuries and accidents on the job site.