

**UNIVERSITI TEKNOLOGI MARA
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SMART HANDLING EQUIPMENT

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requirements for the degree of

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AUTHOR'S DECLARATION

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

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ABSTRACT

Material handling is a crucial part of the construction process, particularly in high-rise residential buildings. The smooth flow of the building process is also determined by the quality of material management. Problems or challenges that constitute an impediment to success must be solved to attain such results. According to a prior study, there are now several difficulties affecting the effectiveness of the material handling process in high-rise residential areas. However, the most serious problem is a lack of communication and crane handling, which endangers the workers' safety. By identifying the primary problem, it offers the chance and platform for innovative ideas to be proposed to address the problem. As a result, an innovative concept called Smart Handling Equipment is presented to tackle the observed issue while also promoting a better working environment for personnel who are involved in crane lifting processes. Desktop research and simulations are assisting in the development of the concept. When compared to a walkie talkie crane in terms of performance, it was discovered that Smart Handling Equipment provides a more effective means of communication during material lifting while also promoting safe operating methods. The innovation product also follows the Sustainable Development Goals (SDG). Therefore, this innovative idea is believed to be able to give a positive impact on the technology cranes industry in Malaysia.