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BUILDCON2023

**COMPILATION OF PROJECT INNOVATION IDEAS
SEMESTER MARCH – AUGUST 2023**

EMBRACING SMART CONSTRUCTION TRANSFORMATION

BUILDERS' CONVENTION DAY 2023

**Department of Built Environment Studies and Technology
College of Built Environment
Universiti Teknologi MARA Perak Branch**

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Organised by
Department of Built Environment Studies and Technology
College of Built Environment
Universiti Teknologi MARA Perak Branch
Malaysia

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Editors

Siti Akhtar Mahayuddin

Noor Rizallinda Ishak

Nor Asma Hafizah Hadzaman

Sallehan Ismail

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DRONE INNOVATIVE FOR EXTERNAL WALL PAINTING

Athirah Razali¹ and Jannatun Naemah Ismam²

^{1,2}Department of Built Environment Studies and Technology, College of Built Environment, Universiti Teknologi MARA Perak Branch,

32610 Seri Iskandar, Perak

Email: 2021812712@student.uitm.edu.my¹, janna001@uitm.edu.my²



Drone Innovative For External Wall Painting

Innovation Idea:

The paper is dedicated in developing a fully functional wall painting robot for external wall painting. Design considerations based on previous studies were gathered to conceptually design the most suitable robot structure that is capable of external wall painting, specifically for high-rise buildings. The aim of this study is to develop an innovative drone, i.e., Drone Innovative, for painting external walls of tall buildings. Drone Innovative for external wall painting reduces the problems in wall painting tasks and lower the exposure of paint workers to dangerous chemicals, which can lead to eye irritations, asthma, and other negative health effects. The methodology of this study involves secondary data collection, design thinking, and 3D modelling using SketchUp software. The data was analysed using content analysis. The Drone Innovative is equipped with spray painting and LiDAR 3D scanning. In addition, the drone can be controlled by a remote controller. This study focuses on the improvements that make the painting process smoother and easier to operate as it only requires a minimum number of workers to operate and monitor the robot. Due to the limitations of time, cost, and materials, there was no performance test conducted to evaluate the product's performance. This innovation coincides with Sustainable Development Goal 9 which seeks to build resilient infrastructure, promote inclusive and sustainable industrialisation, and foster innovation. The innovation also may help in reducing national occupational accident and fatality rate among construction workers.

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Tarikh : 20 Januari 2023

Prof. Madya Dr. Nur Hisham Ibrahim
Rektor
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