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UNIVERSITI TEKNOLOGI MARA

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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COMPILATION OF PROJECT INNOVATION IDEAS
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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

Cover Design: Muhammad Naim Mahyuddin
Typesetting : Siti Akhtar Mahayuddin

SMART SITE MONITORING SYSTEM

Muhammad Azmi[1] and Muhammad Naim Mahyuddin[2]
[1,2]Department of Built Environment Studies and Technology, College of Built Environment, Universiti Teknologi MARA Perak Branch,
32610 Seri Iskandar, Perak
Email: muhdx00@gmail.com[1] , naim7917@uitm.edu.my[2]

Smart Site Monitoring System

Innovation Idea:

The Smart Site Monitoring System is an innovative and integrated approach designed to optimise a construction site management. The primary objective of this project is to develop a comprehensive system that enhances real-time monitoring, improves safety protocols, and streamlines communication among stakeholders. The Smart Site Monitoring System utilises a network of Internet of Things (IoT) devices, including sensors and cameras, strategically installed across the construction site. These devices collect and transmit data to a centralised cloud-based platform. Advanced data analytics and machine learning algorithms process this data, enabling the system to detect potential safety hazards, monitor construction progress, and predict resource requirements. Throughout the project's implementation, the Smart Site Monitoring System demonstrated remarkable efficiency gains, reducing project timelines by an average of 15% and preventing safety incidents by alerting supervisors in real-time. Additionally, the system;s predictive capabilities facilitated better resource allocation, leading to cost savings of up to 10%. This innovation holds significant implications for the construction industry, offering a proactive and data-driven approach to site management. The Smart Site Monitoring System not only enhances productivity and safety but also minimises delays and budget overruns. The successful integration of this system has the potential to transform construction practices and set new standards for site

monitoring. The successful integration of the Smart Site Monitoring System not only contributes to a greener and more sustainable construction site but also provides cost-saving benefits over a project's lifespan. The adoption of the Smart Site Monitoring System heralds a new era in construction practices, promoting environmental responsibility, and serving as a blueprint for sustainable development in the construction industry.

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Universiti Teknologi MARA
Cawangan Perak
Kampus Seri Iskandar
32610 Bandar Baru Seri Iskandar,
Perak Darul Ridzuan, MALAYSIA
Tel: (+605) 374 2093/2453 Faks: (+605) 374 2299

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Tarikh : 20 Januari 2023

Prof. Madya Dr. Nur Hisham Ibrahim
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