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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
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Malaysia

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Perpustakaan Negara Malaysia Cataloguing in Publication Data

No e- ISBN: 978-967-2776-24-6

Cover Design: Muhammad Naim Mahyuddin
Typesetting : Siti Akhtar Mahayuddin

e ISBN 978-967-2776-24-6

9 789672 776246

SMART RAINWATER DOWNPIPE

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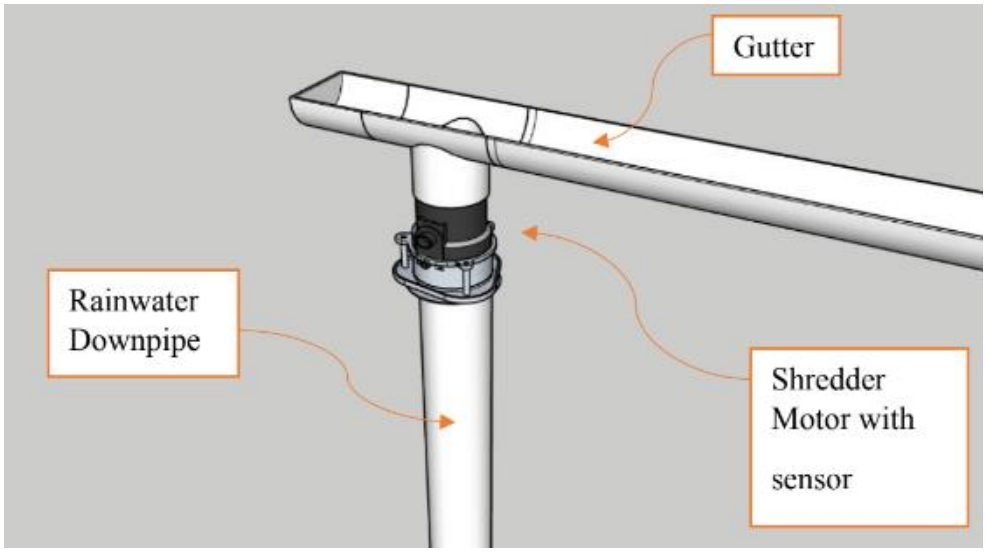

Smart Rainwater Downpipe

Innovation Idea:

Rainwater downpipe acts as a collector of rainwater from the roof to the building and diverts the water away from the building. However, there are issues that arise from the gutters and rainwater downpipe. These issues include water accumulation in the gutter that prevents water from flowing smoothly which then leads to blockage and clogging. Gutters become a source of breeding ground for Aedes habitat. The aim of this research is to develop a smart rainwater downpipe that can enhance a better water flow in the pipeline. This innovation project is important for buildings so that it can distribute water smoothly without any disturbance. The research methodology involves document review, research process, and a simulation. The collected data shows the performance of conventional rainwater downpipe and how it affects the flow of water in the pipeline. The findings from this study provide insights in optimising rainwater downpipe design. By implementing the improved rainwater downpipe, it can enhance the rainwater flow efficiency and maximise its functionality. The findings indicate that SMART rainwater downpipes provide multiple solutions to the previously mentioned problems. This device can effectively reduce water loss by precisely detecting rainfall patterns and optimising water flow, thus making significant contributions to water conservation efforts. Moreover, it greatly decreases the maintenance requirements and risks of water damage for both building owners and occupants by preventing blockages and clogging in gutters and downpipes. Additionally, this innovation plays a crucial role in promoting sustainable water usage practices. In conclusion, this study emphasises the importance of using and having a good system of rainwater downpipe and gutter. By adopting this finding, efficient water management can be achieved and there will be lesser maintenance and works for humans.

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Surat kami : 700-KPK (PRP.UP.1/20/1)
Tarikh : 20 Januari 2023

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