

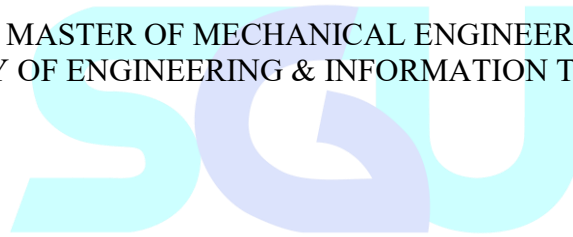
MOBILE CRAWLER ROBOT FOR CONFINED SPACES INSPECTION WITH
INTEGRATED MONITORING DASHBOARD

By

GUTUS NIRWANTO
2-2352-021

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SWISS GERMAN UNIVERSITY
The Prominence Tower
Jalan Jalur Sutera Barat No. 15, Alam Sutera
Tangerang, Banten 15143 - Indonesia

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STATEMENT BY THE AUTHOR

I hereby declare that this submission is my own work and to the best of my knowledge, it contains no material previously published or written by another person, nor material which to a substantial extent has been accepted for the award of any other degree or diploma at any educational institution, except where due acknowledgement is made in the thesis.



Gutus Nirwanto Partosentono

Student

Date

Approved by:

Dena Hendriana, B.Sc., S.M., Sc.D.

Thesis Advisor

Date

Dr. Ir. Maulahikmah Galinium, M.Sc.

Thesis Co-Advisor

Date

Dr. Ir. Maulahikmah Galinium, M.Sc.

Dean

Date

Gutus Nirwanto

ABSTRACT

MOBILE CRAWLER ROBOT FOR CONFINED SPACES INSPECTION WITH INTEGRATED MONITORING DASHBOARD

By

Gutus Nirwanto Partosentono
Dena Hendriana, B.Sc., S.M., Sc.D., Advisor
Dr. Ir. Maulahikmah Galinium, M.Sc., Co-Advisor

SWISS GERMAN UNIVERSITY

The increasing complexity of infrastructure projects necessitates the development of innovative visual inspection solutions capable of effectively navigating confined spaces. Traditional inspection methods frequently prove inadequate due to their time-consuming nature and the stringent safety protocols that inspectors must adhere to. This thesis presents a Mobile Crawler Robot (MCR) specifically engineered to address these challenges, providing a comprehensive, efficient, and cost-effective visual inspection tool. The robot is equipped with advanced sensors, customizable platforms, and remote operation capabilities. By leveraging open-source software such as Grafana and InfluxDB, it facilitates real-time data visualization, thereby enhancing informed decision-making. By minimizing human exposure in hazardous environments and reducing the duration of visual inspections, the MCR establishes a new benchmark for safety and efficiency in infrastructure inspection technology.

Keywords: Grafana, infrastructure, influxdb, open-source, protocols, robot, safety, visual inspection

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DEDICATION

لَهُ مَا فِي السَّمَوَاتِ وَمَا فِي الْأَرْضِ
وَمَا بَيْنَهُمَا وَمَا تَحْتَ الثَّرَى

Thaha:06

memayu hayuning bawana ambrasta dur hangkara



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