



UNIVERSITI
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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**

BUILDCON 2023
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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HEALTH AND SAFETY ERGONOMIC: PERSONAL PROTECTIVE EXOSUITS (PPE)

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Health And Safety Ergonomic: Personal Protective Exosuits (PPE)

Innovation Idea:

Musculoskeletal diseases (MSDs) are a major problem in many sectors, impacting employees' health and productivity globally. This research investigates the possibility of Personal Protective Exosuits as a novel approach to preventing and managing MSDs in the workplace. The abstract emphasises the increasing need for effective treatments to address the increased prevalence of MSDs, as well as the limits of established approaches to address this issue. The paper emphasises the relevance of Personal Protective Equipment (PPE) in boosting worker ergonomic support, with a particular emphasis on exoskeleton technology. Exosuits, which are meant to increase employees' strength and alleviate their physical strain during duties, have the potential to lessen the dangers associated with repetitive or heavy-duty operations. Furthermore, the abstract digs into the advantages of exoskeleton adoption, such as weight distribution and muscle fatigue reduction. Personal Protective Exosuits help to avoid MSDs and encourage a safer working environment by improving worker skills and lowering biomechanical stress. Furthermore, the study investigates the use of exoskeletons in the management of existing MSDs, allowing people with such disorders to continue working with less pain and suffering. This component emphasises a larger influence of PPE on employees' well-being and retention. The study closes by emphasising the potential of Personal Protective Exosuits to transform workplace safety and health, asking companies and governments to consider incorporating these innovative solutions into their occupational health policies. Finally, this study calls for proactive measures such as the use of Personal Protective Exosuits as a cornerstone of workplace safety programmes. The incorporation of exoskeleton technology holds the key to strengthening the workforce against the negative impacts of MSDs, building a health and safety culture that pervades organisations. Adopting an innovative mentality and fostering a preventative attitude are critical for ensuring a brighter and healthier future for the global workforce.

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

Tarikh : 20 Januari 2023

Prof. Madya Dr. Nur Hisham Ibrahim
Rektor
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