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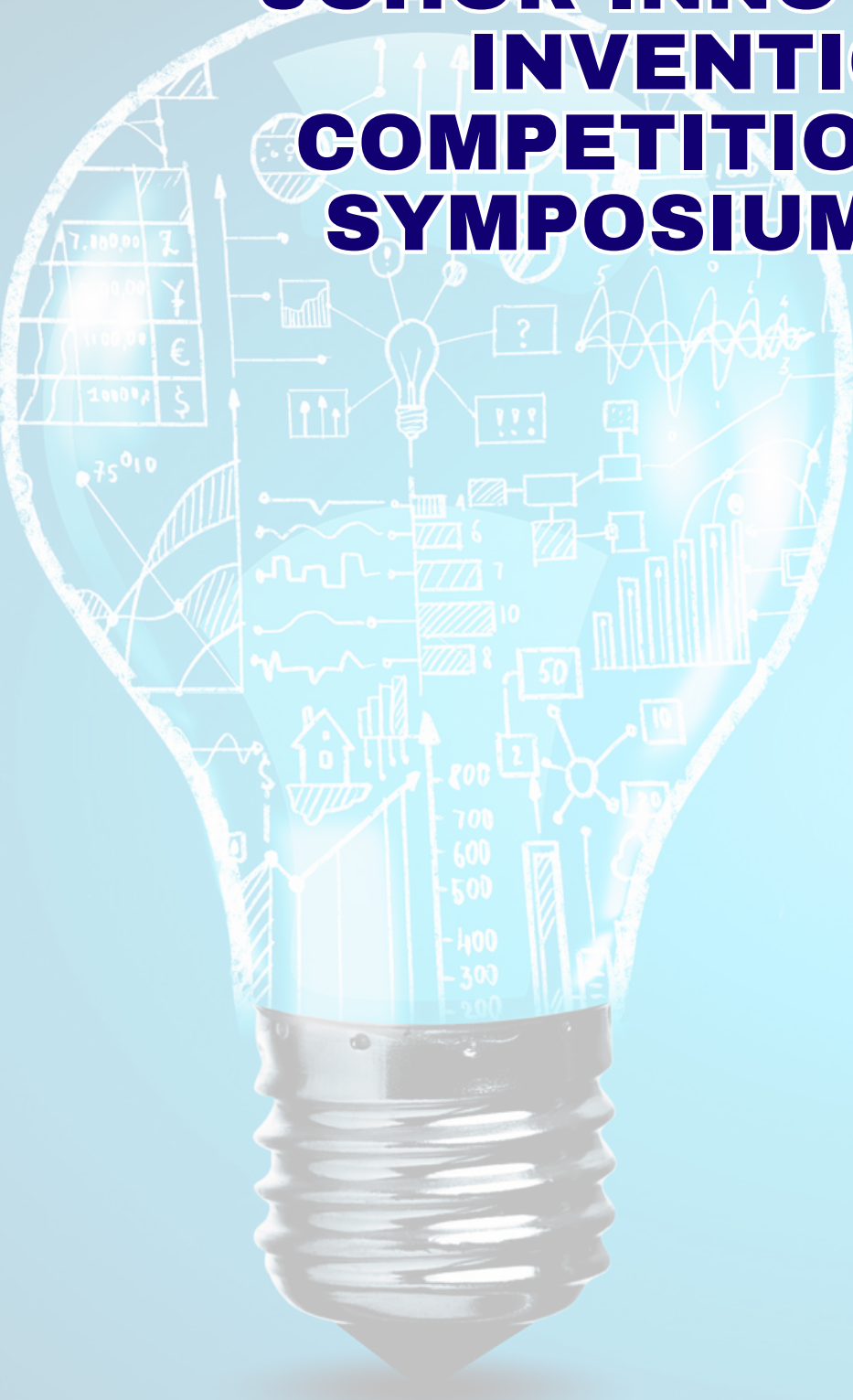
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**JOHOR
INNOVATION
INVENTION
COMPETITION
AND
SYMPOSIUM
2023**



"Innovation Inspires a Society
to be Critical and Creative"

JOHOR INNOVATION INVENTION COMPETITION AND SYMPOSIUM 2023



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Editors-in-Chief

**AHMAD KHUDZAIRI KHALID
NUR INTAN SYAFINAZ AHMAD**



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**Cawangan Johor
Kampus Pasir Gudang**

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**Editors-in-Chief: AHMAD KHUDZAIRI KHALID &
NUR INTAN SYAFINAZ AHMAD**

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Preface

In the name of Allah, the Almighty who gives us the enlightenment, the truth, the knowledge and with regards to Prophet Muhammad (peace be upon him) for guiding us to the straight path. We thank to Allah for giving us guidance and strength to write this e-book.

This e-book compiles the extended abstracts that submitted to Johor Innovation Invention Competition and Symposium 2023 (JIICaS2023), where JIICaS2023 is a virtual platform for all creative minds to share and present their invention and innovation. The extended abstracts are divided into two categories, which are Category A (Higher Educational Student/ Any Recognized Institutional Students in Malaysia) and Category B (Primary/ Secondary School Students / Special Education School Students in Johor). Each abstract gives a brief background on the innovation or project.

We hope that this e-book will help the readers to get to know the innovation done by the students from both categories and get some ideas to develop future innovation products.



2 IN 1 IV-STEM FRENCH FRIES MACHINE

Ahmad Hakim Bin Khamis¹, Siti Rafhanah Binti Suwandi², Siti Nurfarisya Binti Md Noh³, Emier Hedzriq Bin Mohd Hisammuddin⁴, Nur Afifah Binti Sulaiman⁴, Norbaiti Binti Tukiman⁵

¹Kolej Pengajian Kejuruteraan (Mekanikal), Universiti Teknologi MARA Shah Alam, Jalan Ilmu 1/1, 40450 Shah Alam, Selangor

²Kolej Pengajian Kejuruteraan (Mekanikal), Universiti Teknologi MARA Cawangan Johor Kampus Pasir Gudang, Jalan Purnama, 81750 Masai, Johor

³Kolej Pengajian Kejuruteraan (Awam), Universiti Teknologi MARA Cawangan Johor Kampus Pasir Gudang, Jalan Purnama, 81750 Masai, Johor

⁴Fakulti Pengurusan dan Perniagaan, Universiti Teknologi MARA Cawangan Johor Kampus Pasir Gudang, Jalan Purnama, 81750 Masai, Johor

⁵Kolej Pengajian Pengkomputeran, Informatik dan Media, Universiti Teknologi MARA Cawangan Johor Kampus Pasir Gudang, Jalan Purnama, 81750 Masai, Johor

Corresponding author: ahmadhakim0107@gmail.com

ABSTRACT

Knife and potato peeler are typically used by people to peel and cut the potatoes. People still use this manual method because it gives no cost and no use of electricity. This manual method consumes time and energy of human manpower that can lead to the risk of injuries. Therefore, this project aims to overcome the issue rise with analysis, design and fabrication 2 in 1 French fries machine. This machine consists of two processes which are peeler and cutter. Next, 2 in 1 French fries machine is a semi-automatic machine that is able to peel two kilogram potatoes per process and cut the potatoes to the French fries' size and shape. The peeler machine uses the abrasive technique to peel the potato skin. The potato skin peels off when the disc rotates and it collides with the cylinder drum wall. The cutter machine uses the electric linear actuator to push the potato to the cutting blade. The fabrication of this machine mostly uses the stainless steel material. Other than that, simple machine material like motor and shaft used to rotate the disc on the peeler machine. Last but not least, this product has the potential to grow and be commercialized as it gives an alternative way to the user during the peeling and cutting process.

Keywords: potato peeler, cutter machine, French fries

1.0 INTRODUCTION

Nowadays, the process of peeling and cutting potatoes requires time consuming and human manpower. The manual method like using potato peeler and knife for cutting is too dangerous and risk of injuries to the operator. Aim of this project are to analysis, design and fabrication 2 in 1 French fries machine. This machine is semi-automatic machine are able to peel and cut the potatoes to French fries' size and shape. The peeler machine uses an abrasive technique and cutter machine uses a pusher to push the potato to the cutting blade. With the development of this machine, it will reduce time consuming, human manpower and risk of injuries during the process of peeling and cutting potatoes.

2.0 OBJECTIVES

1. To reduce human manpower, because no more energy is used to peel and cut the potatoes
2. To make the same size and shape of the French fries

3.0 DESCRIPTION OF INNOVATION/METHODOLOGY

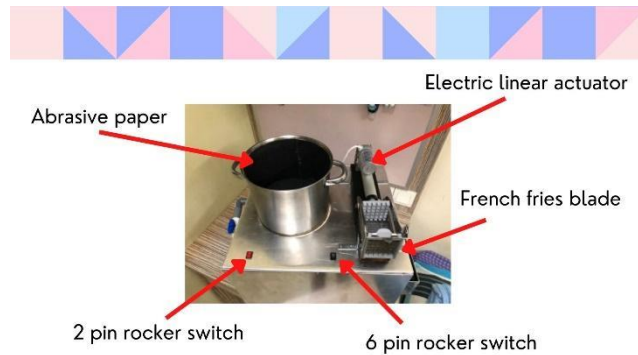


Figure 1: 2 in 1 IV-STEM French Fries Machine

4.0 ADVANTAGE/IMPACT/RESULTS/NOVELTY

The novelty of this product is worth to buy. Next, the advantages are no more human manpower and energy to peel and cut the potatoes. Other than that, this machine also can reduce the time to peel and cut the potatoes.

5.0 CONCLUSION

The focus of this research was to develop a 2 in 1 French fries machine that consist of the peeler and cutter process. The finished product is working as per expected which the rotating disc and potato skin will peel when collided with the waterproof abrasive paper. After that, the linear actuator's cylinder will extend and push the potato to French fries' blade.