

MODELLING AND SIMULATION OF COFFEE BEAN PROCESS INDUSTRY IN MALAYSIA USING SOLIDWORKS SOFTMOTION

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ABSTRACT

This paper presents about how to use the Solidwork softmotion software to design coffee bean processes. By using the software, we can create a process of coffee bean in 2D, 3D and also able to design each part then assembly the parts. Lastly, simulate the assembled parts. There are 2 stages in coffee bean process which are the first stage is heating and stirrer the raw of coffee bean. The second stage is cooling the raw of coffee bean. All stages during the process are fully automatic and the process is a continues process where a conveyor belt is used. The purpose of project is to help the small or medium coffee industry to increases production and can be contenders with big company. Besides that, generally this project study about the automation industries in Malaysia. Hopefully, after finishing this project, the industries especially for Small and Medium Industries (SMI) can improve their production and save man power cost by changing their system into fully automatic system.

TABLE OF CONTENTS

	PAGES
APPROVAL	i
DECLARATION	ii
ACKNOWLEDGEMENT	iii
ABSTRACT	iv
TABLE OF CONTENTS	v
LIST OF FIGURE	vii
 CHAPTER 1	
INTRODUCTION	1
1.1 BACKGROUND OF STUDY	1
1.2 PROBLEM STATEMENT	2
1.3 OBJECTIVE	2
1.4 SCOPE OF WORK	3
1.5 PRINCIPLE OF OPERATION	3
1.6 THESIS ORGANIZATION	4
 CHAPTER 2	
LITERATURE REVIEW	5
2.1 INTRODUCTION	5
2.2 OVERVIEW OF SMI IN MALAYSIA	5
2.3 HISTORY OF COFFEE BEAN PROCESS	6
2.4 HISTORY OF COFFEE BEAN PROCESS IN MALAYSIA	6
2.5 MACHINE USE IN COFFEE BEAN PROCESS IN MALAYSIA	7-8
2.6 AUTOMATION AND ROBOTIC	9

CHAPTER 1

INTRODUCTION

1.1 BACKGROUND OF STUDY

Around the world, automation has been introduced to increase productivity. For the software designer, this means they have pressure to maintain the productivity and produce the better design than other companies in shorter time to reduce the costing [1]. So, this is the reason why people nowadays choose Solidworks as their software to design the product. Solidworks will be always updated year by year with new capabilities and new ways of creating better designs faster. But in Malaysia, a little bit behind this technology in our industries especially SMI companies has not been taken the advantages of this technology to improve their production process [2]. In our country, almost small or medium company still using man power or labor workers in their production compared to other European countries which over the year automation industry has experienced a huge growth worldwide [3]. This makes the company far behind from other companies and they cannot optimize their production and these phenomena also give some impact to our country's economic growth [4]. The Solidworks 3D design software was chosen because it can reduce design period, cut design cost effectively and also improve assembly efficiency [6]. The SolidWorks CAD software is a mechanical design automation application that lets designers quickly sketch out ideas, experiment with features and dimensions, produce models and detailed drawings [7].