



**AUTOMATED GUIDED VEHICLE (AGV) HANDLING INVESTIGATION  
THROUGH SIMULATION**

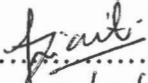
**RAIMI BIN JAMIL  
(2003472614)**

A thesis submitted in partial fulfillment of the requirements for the award of  
Bachelor of Engineering (Hons) (Mechanical)

**Faculty of Mechanical Engineering  
Universiti Teknologi MARA (UiTM)**

**MAY 2007**

I declared that I read this thesis and in my point of view this thesis is qualified in term of scope and quality for the purpose of awarding the Bachelor of Engineering (Hons) (Mechanical)

Signed :   
Date : 14/5/07

Project Advisor  
**Ms. Azianti Ismail**  
Faculty of Mechanical Engineering  
Universiti Teknologi MARA (UiTM)  
40450 Shah Alam  
Selangor

## ACKNOWLEDGEMENT

With the name of Allah s.w.t, the most Gracious who has given us the strength and ability to complete this report. All perfects praises belongs to Allah s.w.t, Lord of the Universe. May His blessing upon the Prophet Muhammad s.a.w and members of family and companions.

I would like to express our gratitude to Ms Azianti Ismail as my advisor for the advise, information, guidance and encouragement during the project and the progression of the thesis.

I would like to express our gratitude to En. Shamsuhaidi Mohamad as Technician of Computer Laboratory 3, level 6, Faculty of Mechanical Engineering, UiTM for the permission to undergo the simulation at the lab. Thank you for the cooperation and support for the project.

I also would like to thank En. Muhaimin for the guidance of the usage of Quest Simulation software. Not forgetting Ms. Zalinawati Mohamad for the intensive class regarding to Quest Simulation analysis.

Thank you to my parents and family members for moral support and prayers for the achievement of the project and the production of the thesis. To my classmates who shares information, gives moral support, prayers and encouragement during the project and the production of this thesis.

Last but not least, I would like to thank to those who gives contribution direct or indirect to the achievement of the project and this thesis.

## **ABSTRACT**

The objective of the final project is to determine whether a company should utilize their press floor with an additional Automated Guided Vehicle (AGV). Thus, this problem will be solved by simulation method using Quest Simulation software. Here, the actual condition will be translated into virtual layout system using the software. There are four scenarios created in which there are to be run in the simulation. These scenarios will show the condition of press floor from the normal to critical daily operation. The press floor will also be simulated at the condition where the AGV is suddenly breakdown. The utilization of the AGV, the die shop and the press lines are the main focus for the output statistic based on the scenarios. Instead of solving the problem, it is believed that the output statistic will lead to some discussions and recommendations to improve the press floor system. We hope that the output result will be helpful for the company in their future expansion of the operations.

## TABLE OF CONTENTS

CONTENTS	PAGE
PAGE TITLE	1
DECLARATION	ii
ACKNOWLEDGEMENT	v
ABSTRACT	vi
TABLE OF CONTENTS	vii
LIST OF TABLES	x
LIST OF FIGURES	xi

### CHAPTER 1 INTRODUCTION AND LITERATURE REVIEW

1.1	Automated Guided Vehicle (AGV)	1
1.2	Simulation	2
1.3	Simulation Development	4
	1.3.1 Defining the problem	4
	1.3.2 Information and data collection	5
	1.3.3 Building simulation model	5
	1.3.4 Experimental design	6
	1.3.5 Examine results	6
	1.3.6 Documentation	7