

**MANUFACTURING CYCLE TIME IMPROVEMENT:
TO REDUCE THROUGHPUT CYCLETIME AT END OF LINE
FROM 1.52 DAYS TO 1.16 DAYS.**



**INSTITUT PENYELIDIKAN, PEMBANGUNAN
DAN PENGKOMERSILAN
UNIVERSITI TEKNOLOGI MARA
40450 SHAH ALAM, SELANGOR
MALAYSIA**

PREPARED BY:

**SYARLIZA ABU BAKAR
SARINAH BAKAR**

JUN 2006

Tarikh : 22 JUN 2006
No. Fail Projek : 600-IRDC/ST 5/3/975

Penolong Naib Canselor (Penyelidikan)
Institut Penyelidikan, Pembangunan dan Pengkomersilan
Universiti Teknologi MARA
40450 Shah Alam

Ybhg. Prof.,

LAPORAN AKHIR PENYELIDIKAN “

Merujuk kepada perkara di atas, bersama-sama ini disertakan 4 (empat) naskah Laporan Akhir Penyelidikan bertajuk “Manufacturing Cycle Time Improvement: To reduce throughput cycletime at End of Line from 1.52 days to 1.16 days”

Sekian, terima kasih.



Yang benar,

SYARLIZA ABU BAKAR

Ketua,

Projek Penyelidikan

TABLE OF CONTENT		Page
ABSTRACTS		
CHAPTER ONE: INTRODUCTION		
1.1	Background of the problem	1
1.2	Statement of the problem	1
1.3	Objective of this study	2
1.4	Limitations of this study	2
1.5	Overview of this research	3
CHAPTER TWO: LITERATURE REVIEW		
2.1	Just-in-Time (JIT)	6
2.2	Batch size reduction	6
2.3	Layout redesign	7
2.4	Line balancing	8
CHAPTER THREE: RESEARCH METHODS		
3.1	Introduction	9
3.2	Collection of background information	9
3.3	Analysis method	10
CHAPTER FOUR: RESULTS		
4.1	Batch size reduction	11
4.2	Line balancing	17
4.3	Layout redesign	19
4.4	Savings	27

ABSTRACT

This research study takes place at Seagate Industries Sdn Bhd, Penang. The researcher employs the concepts of batches, line balancing, and layouts to help Seagate Industries to increase production in the “End of Line” line. This research examines the current production process and to discover and reduce non-value added activities and other alternatives to improve the process through reduction of the work-in-process inventory (WIP), reduction of the set-up times, and reorganizing the work area in a more efficient way.

This research benefits any manufacturing company considering increase thru-put via reducing batch sizes, line balancing, and developing a more efficient process layout. Some of the benefits achieved through the implementation of this study are an 80% reduction in labor, an increase of 32% in production, and a cleaner and safer work area due to the elimination of excessive WIP.

Chapter One: Introduction

1.1 Background of the problem

This field project was completed at Seagate Industries- a manufacturing company located in Penang, Malaysia, that produces slider as one part of the hard discs component as a reader in disc drive industry. It will be illustrated in Figure 1. Seagate is the worldwide leader in the design, manufacturing and marketing of hard disc drives, providing products for a wide-range of Enterprise, Desktop, Mobile and Consumer Electronics applications. The company is committed to delivering award-winning products, customer support and reliability, to meet the world's growing demand for information storage. Time to market is crucial in manufacturing industries and this is the keyword for delivering products to customer as soon as possible subjective to made to order delivery.

1.2 Statement of the problem

All manufacturing companies and industries are battling against time for delivering their products to market. The battle against first product in the market has been going on forever between companies. Employees are urged to work days and nights to meet the company's goal and cracking their heads to meet the production target. Many of them realized that time to market is crucial in manufacturing environment and thus by reducing the manufacturing