

TABLE OF CONTENTS

PREFACE	i
ACKNOWLEDGEMENT	iii
TABLE OF CONTENT	iv
LIST OF ILLUSTRATIONS	x
LIST OF ABBREVIATIONS	xi

CHAPTER 1

BACKGROUND OF THE STUDY

1.1	INTRODUCTION	1
1.2	MILITARY AND TECHNOLOGY AS ELEMENTS OF NATIONAL POWER	2
1.2.1	The Pillars of Military Power	3
1.3	DEFENCE INDUSTRY SUPPORT	5

1.4	THE IMPORTANCE OF VEHICLES IN LAND OPERATIONS	8
1.4.1	Logistics Vehicles	9
1.4.2	Combat Vehicles	11
1.5	DEFENCE POLICY – TOWARDS SELF-RELIANCE	16
1.5.1	Malaysian Automotive Industry	18
1.6	CONVERSION AND INTERGRATION OF COMMERCIAL AND MILITARY TECHNOLOGY	20
1.6.1	The Migration of Defence Technology into Commercial Sector	23
1.7	PROBLEM STATEMENT	25
1.8	THE AIM	26
1.9	OBJECTIVES OF THE STUDY	27
1.10	METHODOLOGY	28
1.11	SUMMARY	29

CHAPTER 2

AUTOMOTIVE INDUSTRY'S TECHNOLOGICAL CAPABILITY DEVELOPMENT

2.1	INTRODUCTION	31
2.2	TECHNOLOGICAL CAPABILITY	32
2.2.1	Definition	32
2.2.2	Dimension of Technological Capability	35
2.3	AUTOMOTIVE INDUSTRY'S TECHNOLOGICAL DEVELOPMENT IN MALAYSIA	38
2.4	DEFENCE INDUSTRY – TECHNOLOGICAL CAPABILITY DEVELOPMENT THROUGH EQUIPMENT PURCHASES	43
2.4.1	Pattern of Purchase	43
2.4.2	The Impact on Technological Capabilities	47
2.5	SUMMARY	51

CHAPTER 3

TECHNOLOGICAL CAPABILITY – A CASE STUDY

3.1	INTRODUCTION	53
3.2	MALAYSIAN MINING CORPORATION – DEFENCE SDN – BHD	54
3.2.1	Company's Profile	54
3.2.2	Vision	55
3.2.3	Mission	56
3.2.4	Engineering Support	56
3.2.5	Research & Development Activities	57
3.2.6	Technical Collaboration	58
3.2.7	Transfer of Technology	59
3.2.8	Current Activities	60
3.2.9	Expansion Plan	61
3.3	DEVERSIFIED RESOURCE BERHAD – DEFENCE TECHNOLOGY	63
3.3.1	Company's Profile	63

3.3.2	Company's Mission	64
3.3.3	Vision	64
3.3.4	Facilities	66
3.3.5	Organisation and Manning	67
3.3.6	Product Range	68
3.3.7	Major Contracts	69
3.3.8	Research and Development	71
3.4	PESAKA ASTANA (M) SDN. BHD.	72
3.4.1	Company's Profile	72
3.4.2	Company's Vision	75
3.4.3	Corporate Mission	75
3.4.4	Facilities	76
3.4.5	Core Business Activities	76
3.4.6	Research and Development	78
3.4.7	Human Resource Development	80
3.4.9	The Future Plan	81
3.5	SUMMARY	81

CHAPTER 4

TECHNOLOGICAL CAPABILITY ASSESSMENT

4.1	INTRODUCTION	82
4.2	SWOT ANALYSIS	83
4.2.1	Malaysian Mining Corporation – Defence	83
4.2.2	Diversified Resource Berhad – Defence Technology	87
4.2.3	Pesaka Astana	90
4.3	OVERALL ASSESSMENT	93
4.3.1	Technological Capability Rating	93
4.3.2	Technological Capability Matrix	96
4.4	SUMMARY	

CHAPTER 5

RECOMMENDATION AND CONCLUSION

5.1	RECOMMENDATIONS	100
5.2	CONCLUSION	104
5.3	FUTURE UNDERTAKING	105
	BIBLIOGRAPHY	107

LIST OF ILLUSTRATION

FIGURE	TITLE	PAGE
1.1	The National Power Model	2
1.2	Pillars of Military Power	4
1.3	The Migration of Defence Technology into Commercial Sector	24
2.1	Firm Technological Capabilities	33
2.2	Technological Change Cycle	34
2.3	Structure of Automotive Industry	43
4.1	Technological Capability Rating	
TABLE		
4.1	Technological Capability Rating	94
PICTURE		
1	MMC-DefenceProducts	62
2	DRB-DEFTECH Products	70
3	Pesaka Astana Products	79

LIST OF ABBREVIATIONS

APC	Armoured Personnel Carrier
AVR	Armoured Vehicle Repair
ABS	Anti-lock Breaking System
CKD	Complete Knock Down
CIW	Counter Insurgency Warfare
CBU	Complete Built-in Unit
CW	Conventional Warfare
GPS	Global Positioning System
HRD	Human Resource Development
KIFV	Korean Infantry Fighting Vehicle
MBT	Main Battle Tank
MINDEF	Ministry Of Defence
MAF	Malaysian Armed Forces
OEM	Original Equipment Manufacturer
REME	Royal Electrical and Mechanical Engineers
REM	Replacement Equipment Manufacturer
R & D	Research and Development
ToT	Transfer of Technology
WWI	First World War
WW2	Second World War