9. SHAREHOLDERS, DIRECTORS, KEY MANAGEMENT AND TECHNICAL PERSONNEL

9.1 Ownership and Management

Based on the Register of Members of ATS as at 31 December 2004, the direct and indirect interests of the Promoter, substantial shareholders, and key management in the issued share capital of the Company, before and after the Public Issue are as follows:-

		Before Public Issue				After Public Issue			
	Nationality / Country of	Direct		Indirect		Direct		Indirect	
Name	incorporation	No. of Shares	%	No. of Shares	%	No. of Shares	%	No. of Shares	%
Promoter & Substantial Shareholder									
Pegasus	Malaysia	91,859,924	78.21	-	-	91,859,924	54.86	-	-
Substantial Shareholders									
Beh Lai Lien	Malaysian	7,326,974	6.24	91,859,924[2]	78.21	8,326,974[4]	4.97	91,956,924[1]	54.92
Lai Siaw Ling	Malaysian	5,934,718	5.05	91,859,924[2]	78.21	6,934,718[4]	4.14	91,859,924[2]	54.86
Wong Pow Keong	Malaysian	6,185,888	5.27	91,859,924[2]	78.21	7,185,888[4]	4.29	91,859,924[2]	54.86
Yap Kim Lean	Malaysian	6,143,221	5.23	91,859,924[2]	78.21	6,143,221	3.67	91,859,924[2]	54.86
Directors									
Beh Lai Lien	Malaysian	7,326,974	6.24	91,859,924[2]	78.21	8,326,974[4]	4.97	91,859,924[2]	54.86
Lai Siaw Ling	Malaysian	5,934,718	5.27	91,859,924[2]	78.21	6,934,718[4]	4.14	91,859,924[2]	54.86
Wong Pow Keong	Malaysian	6,185,888	5.23	91,859,924[2]	78.21	7,185,888[4]	4.29	91,859,924[2]	54.86
Mohd Daniel bin Mat Noh	Malaysian	-	-	-	-	400,000[4]	0.24	-	-
Hui Khee Sum @ Hooi Kee Sum	Malaysian	-	-	-	-	400,000[4]	0.24	-	-
Key Management									
Saw Wei Tat	Malaysian	-	-	-	-	450,000[4]	0.27	-	-
Leong Poh Theen, Peter	Malaysian	-	-	-	-	450,000[4]	0.27	-	-
Tan Siew Hooi	Malaysian	-	-	-	-	97,000[4]	0.06	100,186,898[3]	59.83
Tham Yew Loong	Malaysian	-	-	-	-	95,000[4]	0.06	-	-
Sim Chooi Beng	Malaysian	-	-	-	-	20,000[4]	0.01	-	-
Ong Chin Hock	Malaysian	-	-	-	-	50,000[4]	0.03	-	-
Lye Ban Lin	Malaysian	-	-	-	-	97,000[4]	0.06	-	-
Cheong Kah Poh	Malaysian	-	-	-	-	20,000[4]	0.01	-	-
Chong Soon On	Malaysian	-	-	-	-	-	-	-	-

Notes:-

1. *Deemed interested by virtue of his direct shareholdings in Pegasus and his spouse, Tan Siew Hooi's direct shareholdings in ATS.*
2. *Deemed interested by virtue of their direct shareholdings in Pegasus.*
3. *Deemed interested by virtue of her spouse, Beh Lai Lien's direct and indirect shareholdings in ATS.*
4. *Assuming full subscription of their respective entitlements pursuant to the Pink Form Allocation.*

9.2 Background on Substantial Shareholders and Promoter

The promoter of ATS is Pegasus and the substantial shareholders of ATS are Pegasus, Beh Lai Lien, Lai Siaw Ling, Wong Pow Keong and Yap Kim Lean. A brief background of Pegasus is set out below:

Pegasus was incorporated in Malaysia under the Act on 12 November 2003. As at 15 December 2004, Pegasus has an authorized share capital of RM100,000, comprising 100,000 ordinary shares of RM1.00 each and issued and paid-up share capital of RM1,000, comprising 1,000 ordinary shares of RM1.00 each. The principle activity of Pegasus is investment holding.

The substantial shareholders and directors of Pegasus and their respective shareholdings in Pegasus as at 31 December 2004 are as follows:

	Direct		Indirect	
Name	No. of shares	%	No. of shares	%
Beh Lai Lien	346	34.6	-	-
Lai Siaw Ling	346	34.6	-	-
Wong Pow Keong	154	15.4	-	-
Yap Kim Lean	154	15.4	-	-

The background information of Beh Lai Lien, Lai Siaw Ling and Wong Pow Keong are set out in Sections 9.5 of this Prospectus. Brief background information of Yap Kim Lean is set out below:-

Yap Kim Lean, aged 55, is the sole proprietor of Chop Ghee Hin which is involved in sundry business. Between 1989 and 1998, she was a director of MTE. Since 1998, she is a director of Von Network Marketing Sdn Bhd, an investment holding company.

9.2.1 Directorships in Other Public Corporations

None of the substantial shareholders or Promoter of ATS has held directorships in other public corporations during the last two (2) years.

9.2.2 Substantial Shareholdings in Other Public Corporations

None of the substantial shareholders or Promoter of ATS has had substantial shareholdings (5% or more), whether direct or indirect, in other public corporations during the last two (2) years.

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9. SHAREHOLDERS, DIRECTORS, KEY MANAGEMENT AND TECHNICAL PERSONNEL

9.3 Changes in Substantial Shareholders

The changes in substantial shareholders and Promoter and their respective direct shareholdings in ATS since the date of incorporation are as follows:-

	As at 8 March 2004		As at 20 December 2004[1]		As at 21 December 2004[2]		Upon Listing	
	Number of Shares	(%)	Number of Shares	(%)	Number of Shares	(%)	Number of Shares	(%)
Chan Wai Fen	10	50.00	-	-	-	-	-	-
Choong Mee Yean	10	50.00	-	-	-	-	-	-
Pegasus	-	-	91,859,924	80.30	91,859,924	78.21	91,859,924	54.86
Beh Lai Lien	-	-	5,611,777	4.91	7,326,974	6.24	8,326,974[3]	4.97
Lai Siaw Ling	-	-	5,611,777	4.91	5,934,718	5.05	6,934,718[3]	4.14
Wong Pow Keong	-	-	5,655,321	4.94	6,185,888	5.27	7,185,888[3]	4.29
Yap Kim Lean	-	-	5,655,321	4.94	6,143,221	5.23	6,143,221	3.67

Notes: -

1. *After Acquisitions.*
2. *After Novation of Debts.*
3. *Assuming full subscription of their respective entitlements pursuant to the Pink Form Allocation.*

9.4 Moratorium on Shares

Paragraph 2.10.2 of the MESDAQ Listing Requirements states that ATS Shares held by the Promoters amounting to 45% of the nominal issued and paid-up capital of the Company at the date of admission to the Official List of the MESDAQ Market, and any interest in such ATS Shares, are to be placed under moratorium.

The Promoter whose Shares are subject to this requirement, have placed their ATS Shares under moratorium as follows:-

	After Public Issue		Under moratorium	
Promoter	**No. of Shares**	**%**	**No. of Shares**	**%**
Pegasus	91,859,924	54.86	75,352,844	45.00
TOTAL	91,859,924	54.86	75,352,844	45.00

The moratorium has been fully accepted by the Promoter listed above, and they will not be allowed to sell, transfer, or otherwise dispose of any part of their interest in the ATS Shares under moratorium within one (1) year from the date of admission of the Company to the Official List of the MESDAQ Market, and thereafter, they are permitted to sell, transfer or assign their respective shareholdings under moratorium, up to a maximum of one third per annum on a straight-line basis.

The restriction, which is fully acknowledged by the aforesaid shareholder, is specifically endorsed on the notice of allotment representing its shareholdings which are under moratorium. The Registrar and MCD have been informed in writing in relation to the moratorium of the aforesaid Promoter to ensure that it does not register any transfer not in compliance with the moratorium restriction.

9.5 Board of Directors

The Directors of ATS are Beh Lai Lien, Lai Siaw Ling, Wong Pow Keong, Mohd Daniel Bin Mat Noh and Hui Khee Sum @ Hooi Kee Sum.

The backgrounds of the Directors of ATS are set out as follows:-

Beh Lai Lien, aged 49, is the Managing Director of ATS. He graduated in 1979 with a Diploma in Mechanical Engineering, from the Wellington Polytechnic (now known as Massey University) in Wellington, New Zealand. As the founder of the ATS Group, he has contributed significantly to the growth and success of the Group. He has accumulated approximately 25 years of experience in the Industrial Automation Systems and Machinery business. His career initially started when he was in New Zealand, working part time as a Trainee Design Engineer at Giles and Elliot (NZ) Pte Ltd, and at the same time attending university. He was later promoted to Design Engineer in the company. In 1980, he joined Chloride Batteries (NZ) Pte Ltd as Equipment Design Engineer. Between 1981 and 1984, he was a freelance writer for US Computer magazines, and a programmer. In 1984, he returned to Malaysia and joined Mattel Sdn Bhd in Penang as an Equipment Engineer but left in the same year to join INTEL (M) Sdn Bhd as an Automation Engineer. In the four years that he was with INTEL (M) Sdn Bhd, he was promoted from Automation Engineer to Senior Automation Engineer in 1986 and to Section Head in the same year. In 1991, he co-founded the Group through the establishment of ATE. His current responsibilities include overall management of ATS and developing the strategic direction of the Group. He is a Mechanical Engineer by profession with additional knowledge in computer technology in hardware and software. He also has specific knowledge in plastics technology, tool design and machinery design.

Lai Siaw Ling, aged 41, is the Executive Director and co-founder of ATS Group. He graduated in 1987 with a Bachelor of Electrical Engineering (Honours) Degree from the University of Technology Malaysia. He has accumulated approximately 17 years experience in Industrial Automation Systems and Machinery industry. His career started as a Trainee Engineer at Tenaga Nasional Berhad, Penang, in 1983. He was attached to various departments in the company. In 1987, he joins Litronix Sdn Bhd (now known as Osram Opto Semiconductors (Malaysia) Sdn Bhd), as Product Development Engineer. He was responsible for the development of new customised optoelectronic products. Subsequently he left the following year and was appointed Customer Engineer at Hewlett-Packard Sales (Malaysia) Sdn Bhd in 1988 until 1990. In 1991, he co-founded the Group through the establishment of ATE. His current responsibilities include managing the daily operations of ATS Group including cultivating new business development. Some of his contributions include establishing the Sales and Marketing Department, Vision Systems Department, the Electrical Systems Design and R&D Departments. He is also responsible for the implementation of ISO 9001.

Wong Pow Keong, aged 38, is the Executive Director of ATS. His career started as a Draftsman and Quality Controller at Metfab Engineering Sdn Bhd, Penang in 1987. He left in 1988 and joined KK Chong Engineering Sdn Bhd as a Workshop Manager in charge of workshop operations. Subsequently he left in 1991 to join ATE as Workshop Manager and was promoted to Assembly Manager in 1997 where he was responsible for daily operations in the assembly department. In 1998, he was appointed Sales Manager at ATE. He was mainly responsible for incoming orders for the company as well as being a consultant for the company's workshop. In 2001, he left ATE and jointed MTE as General Manager. He is also Director of MTE since 1989. His responsibilities include overseeing the daily operations of MTE. He is also responsible for the implementation of ISO 9001 in MTE.

Mohd Daniel Bin Mat Noh, aged 45, is the Independent Non-Executive Director of ATS. He graduated in 1984 from University Malaya with a Bachelor of Science Honours Degree majoring in Mathematics. In 1995, he received his Master of Business and Administration Degree (MBA) from the University of Bath, United Kingdom. He started his career in 1984 as a Bank Officer at Maybank Berhad before being promoted to Assistant Branch Manager in Jelutong Branch in 1988. He was transferred to the Penang Main office in 1993 in the same position before joining Commercial Banking Division in Penang in 1995. He left and joined Malaysian International Merchant Bankers Berhad in 1995 as Deputy Branch Manager and Assistant Manager of Corporate Banking. In 1996, he left and joined Hong Leong Bank Berhad as Branch Manager and left later that year to join Aseambankers Malaysia Berhad as Manager. In 1999, he left Aseambankers and took up the position of Vice President - Special Projects with AKN Industries Sdn Bhd. Subsequently he left in 2000 to join COB Technology Asia Sdn Bhd as Corporate Affairs Director until 2002. He then set up Expedient Equity Sdn Bhd, a venture capital management company as Chief Executive Officer/Director.

Hui Khee Sum @ Hooi Kee Sum, aged 61, is the Independent Non-Executive Director of ATS. He is a Fellow Member of The Institute of Chartered Accountants in England & Wales. He did his accountancy articleship in London and qualified as Chartered Accountant in 1969. His career started when he joined Peat Marwick. Mitchell & Co., London (now known as KPMG, London). In 1972, he joined Standard Telephone & Cables Ltd., London (a subsidiary of International Telephone & Telegraph, USA) as Manager of Business Planning & Budgeting. He was then transferred to Malaysia in 1974 to take up the position of Financial Controller of ITT Transelectronics (M) Sdn Bhd, a manufacturer and exporter of consumer electronic products. He then left and joined Palmco Holdings Berhad in 1981 as Group Financial Controller and was promoted to Group Finance Director in 1983. Subsequently he left in 1987 to join KPMG Peat Marwick Consultants Sdn Bhd as Director of the company. In 1989, he left Malaysia to join his family in London and took up the position as Group Finance Director of Marshall Cavendish Limited, a major publishing group with headquarters in London. In 1992, he was promoted to Chief Executive Officer and was instrumental in the formulation of the Group's global strategy, developing new markets and restructuring of the publisher's operations in London, Paris, Hamburg and Sydney. He returned to Malaysia in 1997 and is currently working as a senior consultant undertaking engagements in company restructuring, turnaround and general financial advisory services in Malaysia.

9.5.1 Directors' Remuneration and Benefits

The remuneration and benefits paid to the Directors of the Group for services rendered in all capacities to the ATS Group for FYE 29 February 2004 amounted to RM740,751. The directors' remuneration and benefits from March 2004 to November 2004 amounts to approximately RM671,946.

The remuneration band of the Directors of the Company is as follows:

	FYE 29.2.04	9 month period ended 30.11.04	FYE 28.2.05
	No. of directors	No. of directors	No. of directors
Below RM200,000	1	1	3
RM200,000 – RM400,000	2	2	2
Total amount (RM)	740,751	671,946	1,000,000

9.5.2 Directorships in Other Public Corporations

None of the Directors of ATS has held directorships in other public corporations during the last two (2) years.

9.5.3 Substantial Shareholdings in Other Public Corporations

None of the Directors of ATS has had substantial shareholdings (5% or more), whether direct or indirect, in other public corporations during the last two (2) years.

9.5.4 Executive Directors' Involvement in Other Businesses / Corporations

As at the date of this Prospectus, none of the Executive Directors of ATS is involved in the operations of other business or corporations, save and except for the operations of the Group.

9.6 Audit Committee

ATS has set up an Audit Committee which comprises the following Board members:-

Name	Designation	Directorship
Mohd Daniel Bin Mat Noh	Chairman of the Committee	Independent Non-Executive Director

Name	Designation	Directorship
Hui Khee Sum @ Hooi Kee Sum	Member of the Committee	Independent Non-Executive Director
Lai Siaw Ling	Member of the Committee	Executive Director

The main functions of the Audit Committee include the review of audit plans and audit reports with the Group's auditors, review of the auditor's evaluation of internal accounting controls and management information systems, review of the scope of internal audit procedures, review of the balance sheet and profit and loss accounts, and nomination of auditors.

9.7 Key Management and Technical Personnel

The key management and technical personnel of the Group are Saw Wei Tat, Leong Poh Theen, Tan Siew Hooi, Chong Soon On, Tham Yew Loong, Sim Chooi Beng, Ong Chin Hock, Lye Ban Lin and Cheong Kah Poh and Chin Sooi Chon.

Saw Wei Tat, aged 34, is the General Manager (Corporate and Finance) of ATS. He graduated from Deakin University, Australia with a Bachelor of Business Degree major in Accountancy in 1993. He is also an Associate Member of the Australian Society of Certified Practising Accountants. His career started in 1993 at Kassim Chan & Co as Audit Assistant. He left the company in 1995 and joined Malaysian International Merchant Bankers Berhad as an Executive (Corporate Finance) and responsible for initial public offering, fund raising, reverse take over and also mergers and acquisitions. In 1999, he left to join Aseambankers Malaysia Berhad as Assistant Manager (Corporate Finance) in the Northern Region. He joined Hwang-DBS Securities Berhad in 2000 as Assistant Vice President for Corporate Finance Department. In 2002 he was appointed as Business Development Manager/Head of Corporate Sales at OSK and was mainly responsible for the expansion of business, marketing plans and setting up of branches in the Northern Region. He also headed a team of business development executives for various products such as stock broking, corporate finance, unit trust and fund management. Subsequently he left and joined AA Anthony Securities Berhad in 2004 as Business Development Manager/Head of Equity and is responsible for the expansion of stock broking business in Northern Region. His other responsibilities include the placement and promotion of shares to various local and international fund management companies. He joined ATS as General Manager in 2004.

Leong Poh Theen, Peter, aged 47, is the General Manager of ATC. He obtained a Diploma in Business Management from the Malaysian Institute of Management in 1997. His career started in 1978 as a Sales Representative at Wearnes Brothers Sdn Bhd before leaving in 1980 to join Mulpha Engineering Sdn Bhd as Sales Representative. In 1984 he took up the position of Sales Representative with Gestetner Sdn Bhd. Subsequently in 1986 he left to join SMC Pneumatics Sdn. Bhd. as Sales Representative and was promoted to Sales Supervisor in 1989. He was then promoted to Branch Manager in the same company in 1991 whereby he was responsible for the Penang and Ipoh branch offices. He left in 2001 to join ATC as General Manager. He is mainly responsible for overseeing the business development activities of ATS Group.

Tan Siew Hooi, aged 44, is the Administration and Human Resource Manager of ATS. Her career started in 1979 as a General Clerk at Heap Seng Sdn Bhd, a trading company. She left in 1981 and joined Mattel (M) Sdn Bhd, a multinational toy manufacturer, as an Accounts and Payroll Clerk. She was entrusted with managing the payroll of approximately 1500 employees in the company. In 1984, she left and joined Pan Asia Paper Product Sdn Bhd, a subsidiary of the Hong Leong Group of companies, as Sales Coordinator/Secretary. She then joined the ATS Group in 1991 and brings with her a wealth of experience and knowledge in administration and general operations. Her current responsibilities include managing the administrative and human resource functions and related matters.

Chong Soon On, aged 30, is the Accountant of ATS. He obtained his professional qualification from the Association of Chartered Certified Accountants ("ACCA") in 1998. He is also a Chartered Accountant registered with the Malaysian Institute of Accountants since 2001. His career started in 1995 as an Audit Assistant (Junior Executive) with Teh Eng Aun & Co. In 1997, he joined KPMG Peat Marwick as Assistant Auditor and left as Senior Assistant Auditor (Senior Executive) in 2000. He then joined Lam Eng Trading (M) Sdn Bhd as Accountant in the same year. In 2002, he joined Merbok MDF Sdn Bhd, a manufacturer of rubber wood medium density fibreboard as an Accountant. He joined HDM-Carlaw Corporation Berhad, a company principally involved in the provisions of robotics, automation and flexible manufacturing system solutions for the manufacturing industry, in February 2004 as Group Accountant responsible for the finance and accounting matters of three subsidiaries under the group. He joined ATS in 2004.

Tham Yew Loong, aged 34, is the Senior Manager of ATE. He obtained a Diploma in Electro Mechanical from Polytechnic Ungku Omar, Ipoh in 1993 and MBA from Southern Pacific University, USA in 2003. His career started as a Senior Technician at Motorola (Malaysia) Sdn Bhd, Penang in 1993. Subsequently he left in 1993 to join ATE as Electrical Designer. He was then promoted to Project Group Leader in 1996 and Section Manager in 1997. In 1999, he was promoted to Division Manager responsible for project arrangements on design and delivery. Subsequently, he was promoted to his current position as Senior Manager (Productions) in 2001.

Sim Chooi Beng, aged 30, is the Project Manager of ATE. He graduated in 1998 with a Bachelor of Mechanical Engineering Degree from University Teknologi Malaysia. His career started in 1998 as a Process Engineer with Eng Teknologi Sdn Bhd before leaving to join LKT Automation Sdn Bhd in 1999 as a Mechanical Engineer. Subsequently he took up the position of Senior Design Engineer when he joined Micro Mechanics Sdn Bhd in 2000 and left in 2003 to MCT Asia (Penang) Sdn Bhd as Senior Mechanical Engineer. He joined ATE as Project Manager in 2004. He is mainly responsible for leading the mechanical engineers in their respective divisions.

Ong Chin Hock, aged 29, is the Section Manager of ATE. He obtained a Diploma in Technology (Electronic Engineering) from Tunku Abdul Rahman College in 1997 and the Advanced Diploma in Technology (Electronic Engineering) from the same establishment in 1999. In 1999, he obtained his Bachelor of Engineering (Honours) Degree in Electronic System Engineering from Sheffield Hallam University in the United Kingdom. His career started in 1999 as a Test Engineer with Omega Semiconductor Sdn Bhd in Melaka. He then joined ATE in 2000 as a Project Engineer and was responsible for electrical and software design. He was promoted to Senior Project Engineer in 2002 and subsequently to Section Manager in 2004. He is mainly responsible for design and project management and supervision.

Lye Ban Lin, aged 38, is the Manager of ATE. He obtained a Diploma Mechanical Engineering in from Tunku Abdul Rahman College in 1992. He joined ATE in 1992 as a Trainee Designer before being promoted to Designer in 1993 whereby he was responsible for designing and project coordination for the company. He was then promoted to Senior Designer in 1995 and to Section Manager in 1997. In 1999, he was promoted to his present position as Manager. His main responsibilities include designing, planning and project coordination, supervision and management of projects with the company.

Cheong Kah Poh, aged 36, is the Tool Room Manager of MTE. He graduated with a Diploma of Engineering from Mattel Tools Sdn Bhd in 2000 focusing on metal fabrication, tool and die and welding. He received his Certificate in Mold Making from Mattel Tools Sdn Bhd in 1992. His career started in 1988 as a Tool Maker at Mattel Tools Sdn Bhd. He subsequently joined Teck See Plastik Sdn Bhd in 1994 as a Tooling Engineer. He left in 2000 to join Micro-Mechanics Technology Sdn Bhd as Senior Design and Development Engineer. He was Production Manager at SBB Manufacturing Sdn Bhd before joining ATE as the Tool Room Manager in 2004. He is mainly responsible for overseeing tooling maintenance and fabrication functions.

9.7.1 Directorships in Other Public Corporations

None of the key management and/or technical personnel of ATS have held directorships in other public corporations during the last two (2) years.

9.7.2 Substantial Shareholdings in Other Public Corporations

None of the key management and/or technical personnel of ATS has had substantial shareholdings (5% or more), whether direct or indirect, in other public corporations during the last two (2) years.

9.7.3 Key Management's Involvement in Other Businesses / Corporations

As at the date of this Prospectus, none of the Company's key management personnel is involved in other businesses/corporations, save and except for the operations of the Group.

9.8 Declaration

None of the Company's Directors or key management is or was involved in the following events, whether in or outside Malaysia:-

(i) a petition under any bankruptcy or insolvency laws was filed (and not struck out) against such person or any partnership in which he/she was a partner or any corporation of which he/she was a director or key personnel;

(ii) such person was charged and/or convicted in a criminal proceeding or is a named subject of a pending criminal proceeding; or

(iii) such person was the subject of any order, judgment or ruling of any court of competent jurisdiction, tribunal or government body permanently or temporarily enjoining him from acting as an investment adviser, dealer in securities, director or employee of a financial institution and engaging in any type of business practice or activity.

9.9 Relationships and Associations

Save as disclosed below, there are no family or business relationships amongst the Directors, Promoters, substantial shareholders, key management or technical personnel of the ATS Group:-

(i) Beh Lai Lien, Lai Siaw Ling and Wong Pow Keong are Directors and substantial shareholders of ATS and are also substantial shareholders of Pegasus, the Promoter of ATS;

(ii) Yap Kim Lean is the substantial shareholder of ATS and is also the substantial shareholders of Pegasus, the Promoter of ATS;

(iii) Beh Lai Lien is the brother-in-law of Lai Siaw Ling; and

(iv) Tan Siew Hooi is part of the key management of ATS and is also the wife of Beh Lai Lien.

9.10 Service Agreements

All employees of the Group have standard employment contracts. There are no existing or proposed service agreements between the Group and any other company within the Group and its Directors, key management or technical personnel.

10. SUMMARY OF FIVE-YEAR BUSINESS DEVELOPMENT PLAN

VITAL FACTOR CONSULTING
Creating Winning Business Solutions

Vital Factor Consulting Sdn Bhd
(Company No.: 266797-T)
75C & 77C Jalan SS22/19
Damansara Jaya
47400 Petaling Jaya
Selangor Darul Ehsan, Malaysia
Tel: (603) 7728-0248
Fax: (603) 7728-7248
Email: info@vitalfactor.com
Website: www.vitalfactor.com

17 JAN 2005

The Board of Directors
AT Systematization Berhad
Plot 49 Bayan Lepas Industrial Zone Phase IV
Hilir Sungai Kluang 2
11900 Bayan Lepas
Penang, Malaysia

Dear Sirs/Madam

Five-Year Business Development Plan of AT Systematization Berhad

The following is a summary of the Five-year Business Development Plan of AT Systematization Berhad (herein, together with its subsidiaries will be referred to as ATS Group) prepared by Vital Factor Consulting Sdn Bhd for inclusion in its Prospectus for its proposed listing on the MESDAQ market.

1. CURRENT BUSINESS ACTIVITIES

- The current business activities of ATS Group are as depicted in the figure below:

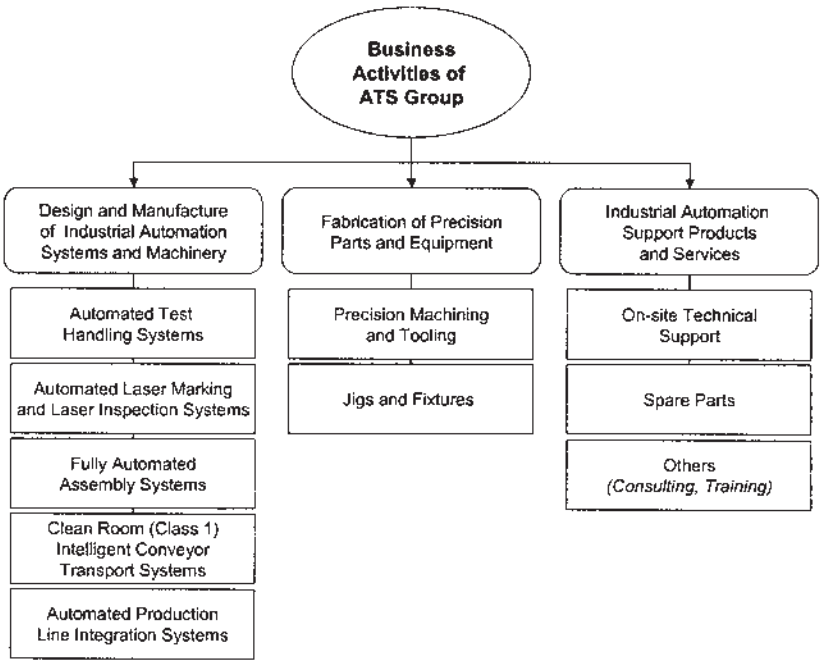

Figure 1 Business Activities of AT Group

- ATS Group is an Integrated Designer and Manufacturer of Industrial Automation Systems and Machinery with supporting activities including Fabrication of Parts and Equipment, and provision of Industrial Automation Support Products and Services.

2. BUSINESS INTENT

2.1 Overall Business Intention

- ATS Group's vision is to be:

"A Leading Integrated Designer and Manufacturer of Industrial Automation Systems and Machinery"

- In line with its business vision, ATS Group's business intentions are focused in four core areas as depicted in the figure below:

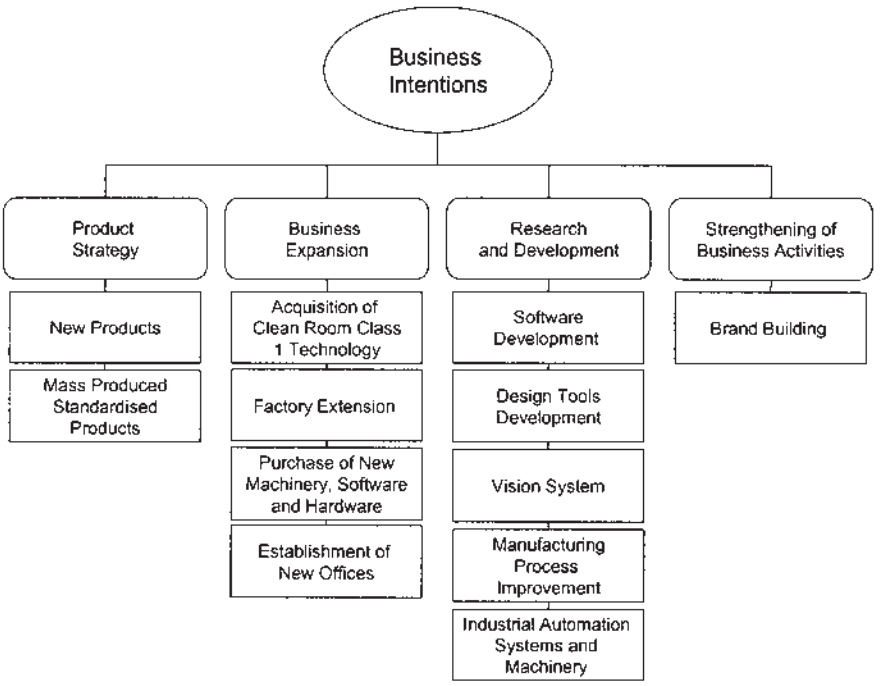

Figure 2 ATS Group's Overall Business Intention

2.2 Product and Services Strategy

- To achieve its business intentions, ATS Group would adopt the following product strategy by expanding from its current product portfolio.

- The full product portfolio incorporating current and future products are as follows:

CURRENT	FUTURE
Product	**New Products**
Automated Test Handling Systems	*High Speed Test Mark Cure System for miniaturised package*
Automated Laser Marking and Vision Inspection Systems	*Colour Recognition System*
Fully Automated Assembly System	**Clean Room Class 1 Assembly System*

CURRENT	FUTURE
Product	**New Products**
Automated Production Line Integration System	**Mass Produced Standardised Products**
Clean Room (Class 1) Intelligent Conveyor Transport System	*Test Handling System*
Precision Machined Parts	*Laser Marking System*
Jigs and Fixtures	*Fully Automated Assembly System*
Industrial Automation Support Products and Services	
On-site Technical Support	
Spare Parts	
Consulting and Training	

** Different types of machine, but meet the stringent requirements for Clean Room Class 1 condition.*

Figure 3 ATS Group's Product and Service Portfolio

2.3 New Products

- As part of ATS Group's intention to stay ahead of its competitors, it will continually develop new products to provide sustainability and growth for the business. These new products include:
  - High Speed Test Mark Cure System for miniaturised package;
  - Colour Recognition System;
  - Clean Room Class 1 Assembly System.

- ATS Group plans to commercialise the above-mentioned products between 2005 and 2007.

- High Speed Test Mark Cure System for miniaturised package

  This System is primarily for the production of Metal Electrode Leadless Face – Diode (MELF-D). The system will test and correct defective MELF-D and marked them with bar codes where it is automatically transferred for curing. The High Speed Test Mark Cure System for miniaturised package is capable of handling 18,000 units per hour.

- Colour Recognition System

  ATS Group's Colour Recognition System is capable of inspecting 24-bit colour image and provides feedback to the user on the colour of a specific region or location. Some of the applications include:
  - sorting coloured food products, for example coloured lollies;
  - sorting the different colours of Light Emitting Diode (LED);
  - sorting the different combinations of resistor colour band that determines the resistor's rating.

- Clean Room Class 1 Assembly System

  Clean Room Class 1 Assembly System (CRC1-AS) is a conveyor-based transport system designed for the semiconductor industry, for example wafer fabrication and hard disk drive manufacturing. The built-in intelligent controller provides simplicity in operation without the need for external intervention. High transport speeds of up to 1 metre per second are possible. CRC1-AS is targeted for virtually all types and sizes of carriers for example, from 25 millimetre disk drives to 1-meter width Plasma Display Panels.

2.4 Mass Produced Standardised Products

- The Group intends to improve on the following existing products through modification and standardisation to enable mass production and commercialisation of its products:
  - Test Handling System
  - Laser Marking System
  - Fully Automated Assembly System

2.5 Business Expansion

- Acquisition of Clean Room Class 1 Technologies

  ATS Group currently is capable of manufacturing Clean Room Class 1 Conveyor Transport System focusing in the disk drive sector. The acquisition of additional Clean Room Class 1 Technologies would enable ATS Group to provide a wider range of Clean Room Class 1 Automated Systems and Machinery. Such acquisition is in line with the Group's continuous efforts to serve as a one-stop centre in providing a complementary range of standardised and customised products to its customers. The acquisition of clean room Class 1 technologies is expected to take place in 2007.

- Factory Extension

  In view of meeting increasing demand and embarking on new product development, there is a need for the Group to expand its existing factory to increase its production capacity. The Group proposes to extend its existing manufacturing plant by utilising the one-acre vacant land situated next to the current plant in order to meet its expansion plan. The expansion of its existing manufacturing plant in the Bayan Lepas Industrial Zone Phase IV is expected to commence in 2006.

- Purchase of New Equipment and Computer Software and Hardware

  In view of expanding its production capacity, ATS Group plans to acquire new machinery and equipment. This is mainly for the operations of high precision machinery and tooling. In addition, the Group intends to purchase computer software for product design and customer support. The purchase of new equipment, computer software and hardware is proposed to take place in 2005.

- Establishment of New Offices

  Currently, ATS Group exports its products to China, Singapore, Thailand and the United States. In view of the growing demand for Industrial Automation Systems and Machinery, the Group plans to increase market presence and penetration by establishing sales and marketing offices in the following markets:
  - Klang Valley in 2005;
  - Shanghai, Beijing and Guangzhou in China by 2006;
  - United States in 2006;
  - Bangkok, Thailand to provide sales and customer service within the Indo-China region by 2005.

2.6 Research And Development Strategy

Software Development

- One of ATS Group's key achievements from R&D is the development of a real-time multitasking system control software, commonly known as Man-Machine Interface. ATS Group has called the system control software RealMax. The system control software is the brain, which controls all aspects of the operation and running of the Automated System and Machinery.

- As such, ATS Group intends to continuing developing its software, which is one of its key competitive advantages.

- Among others, some of its continuing R&D efforts are focused on safety enhancement as follows:
  - building more safety interlocking system:
    - protection door interlocking
    - hazard isolation
  - several security level access
  - emergency handling procedures.

Design Tools Development

- ATS Group has developed design tools for the production of Automated Test Handling and Inspection System. The Group intends to embark on the compilation and upgrading of its existing automation module to further develop design tools for Advanced Test Handling Module.

- The compilation and upgrading of existing automation module are in tandem with the Group's product development plan. The succession of such module will enable the Group to attain the following objectives:
  - efficiency and greater speed in system integration for the development of Advanced Test Handling System;
  - reduce cost, improve system reliability and flexibility of the entire system.

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- The compilation and upgrading of existing automation module are in tandem with the Group's product development plan. The succession of such module will enable the Group to attain the following objectives:
  - efficiency and greater speed in system integration for the development of Advanced Test Handling System;
  - reduce cost, improve system reliability and flexibility of the entire system.

- The Group plans to commence this development project in between 2005 and 2007.

Vision System

- As part of its product development plan, ATS Group plans to further explore colour recognition capability as well as small particle detection on wafer surface.

- In colour recognition, ATS Group intends to expand its current capabilities to incorporate recognition of natural colours, for example different shades of a colour. This would have very wide applications across different industries ranging from food and beverages to electrical and electronics industries.

- The improvement of its existing vision system will enable the Group's Industrial Automation Systems and Machinery in achieving higher inspection accuracy and handling higher volume of inspection.

- The Group plans to embark on the development of its vision system between 2005 and 2007.

2.7 Manufacturing Improvement

- ATS Group continuously focuses on process improvement, particularly in enhancing its manufacturing processes. This is critical as it has a direct impact on manufacturing efficiency, effectiveness, productivity and product quality.

- As such, the Group undertakes R&D in the following areas:
  - systematise machine integration process;
  - faster machine integration;
  - optimise test debugging process.

- Manufacturing improvement is a continuous process.

2.8 Brand Building

- ATS Group is aware of the need to differentiate its products and services and to build a reputation for quality, reliability and innovation.

- As such, it intends to embark on brand building as one of its marketing strategies to obtain the following benefits:
  - enhancing customer loyalty;
  - support its pricing strategy;
  - create competitive advantages;
  - creates recognition for its products and services;
  - win new customers based on strong brands and positive association.

- To this end, ATS Group intends to obtain government grant, for example the Malaysian External Trade Development Corporation (Matrade) Brand Promotion Grant, to support its marketing strategies and promote brands to its targeted end-user industries.

- The Group plans to actively undertake brand-building and marketing activities in 2005.

3. PRODUCTS AND SERVICES OFFERED DURING FIRST YEAR ON MESDAQ MARKET

- ATS Group's product and service portfolio during its first year after admission to MESDAQ market would comprise established and new products as follows:

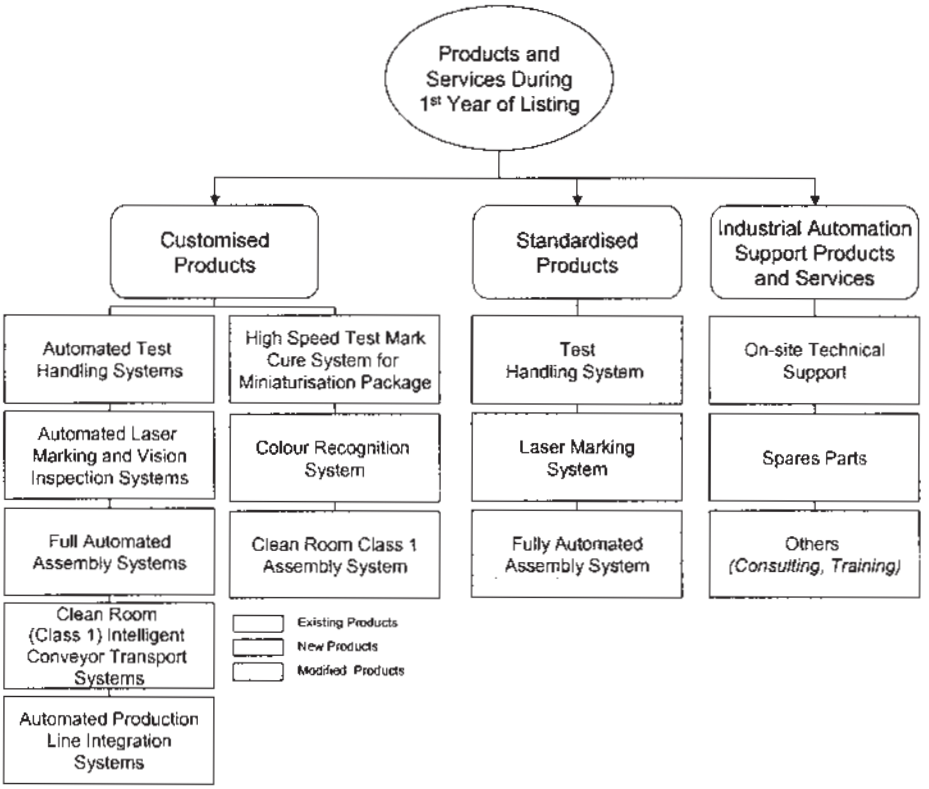

Figure 4 ATS Group's Product Portfolio during First Year of Admission to MESDAQ Market

- During the first year of admission to the MESDAQ market, ATS Group's portfolio of products are focussed in two areas:
  - Continue to market and support all existing products and services;
  - Market and support new and modified products.

- ATS Group's portfolio of products and services during its first year of admission to the MESDAQ market is based on strengthening its established products, and to use them as the platform for developing and commercialising new and modified products to address business opportunities. This will ensure business sustainability and growth.

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4. PRODUCT DEVELOPMENT PLAN

4.1 Overview of Product Development Plan

- ATS Group's product development plan is focused on two main areas as depicted in the figure below:

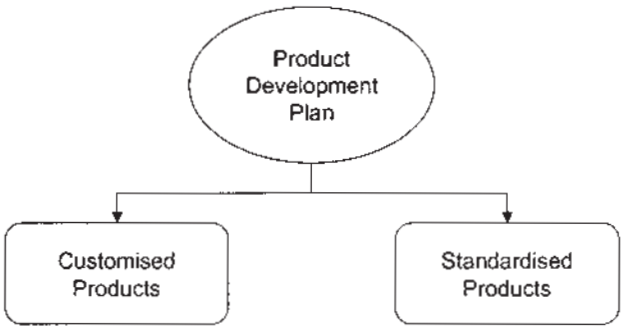

Figure 5 Product Development Plan

4.2 Customised Products

- ATS Group's current skills-sets and services are focused on creating customised Industrial Automation Systems and Machinery. This implies that is able to develop a very wide range of Automation Systems and Machinery, especially for the Electrical and Electronics Industry.

- This gives it significant leeway to develop its business as it is not restricted by the products that it currently has. If there is a business case to do so, ATS Group is able to develop Automation Systems and Machinery for other industries.

- As such, ATS Group's product development will continue to develop customised products for the Electrical and Electronics Industry and gradually move into other lucrative industries, for example the Medical Instruments and Devices Industry.

4.3 Standardised Products

- ATS Group is keenly aware of the need to diversify its business to incorporate mass production to mitigate some of the dependency on project based revenue stream.

- As such, ATS Group's development plan also incorporates development of standardised Automation Systems and Machinery that has common applications to many manufacturers.

- The implementation of this development plan will be for Automation Systems and Machinery that it has already developed, but would require modifications to appeal to a wider target customer group.

- This approach minimises cost of product development as ATS Group will be working from an existing platform of operational Automation Systems and Machinery.

- The commercialisation of mass produced standardised products would also enable ATS Group to developed export markets very rapidly.

- It also enables ATS Group to adopt indirect channels of distribution where it could use overseas distributors or agents to help sell its standardised products.

- ATS Group owns the Intellectual Property for all its Automation Systems and Machinery, which enables the Group to modify for standardised and mass produced products. Although ATS Group owns the intellectual property, they are not patented with the exception of Vision System, which is currently pending approval.

5. RESEARCH AND DEVELOPMENT

5.1 Technologies Used

- ATS Group utilises the following technologies for development of Industrial Automation Systems and Machinery:
  - Vision Systems
  - Robotics
  - Multi-discipline Engineering
  - Computing Technology
  - Clean Room Technology
  - Servo Motor technology.

Vision Systems

- Vision technology enables machinery to act or react based on a set of rules that are dependent on differences in locations, colours, shapes and markings, and presence or absence of objects.

- The key component of the vision system is a camera for detection and a highly sophisticated software to interpret the images for matching against a set of rules to determine the action steps of the machine.

- Vision systems are important to the Automation process as they reduce the dependency on humans to undertake repetitive tasks. In many situations, highly sophisticated vision systems that are able to replace human involvement would be superior, as the vision systems would enable faster throughput, less error, and not suffer fatigue.

- ATS Group's use of vision systems in its current Automation Systems and Machinery enables it to differentiate somewhat its products as well as better meet the needs of its customers.

- ATS Group is also developing applications incorporating colour recognition that is able to different natural colours, for example different shades of any one colour. This would further enhance its value–adding to its Design and Manufacturing of Automation Systems and Machinery.

Robotics

- Robotics is a mechanism that can move automatically. Commonly it is a mechanical device for performing a task, which might otherwise be done by a human, e.g. spraying paint on cars.

- ATS Group uses robotics for its pick and place function, particularly for Electrical and Electronics applications.

- Some of the major advantages of robotics include the following:
  - High speed
  - Precise actions and highly accurate
  - Consistent quality.

- Robots, commonly in the form of moving arms, are controlled through software. The software dictates its actions, which are highly repetitive.

- ATS Group employs significant amount of robotics technology in its Automated Systems and Machinery, for example pick and place for the Electronics Industry.

Multi-Discipline Engineering

- Developing Industrial Automation Systems and Machinery relies primarily on technologies from the following engineering disciplines:
  - Mechanical
  - Electronics
  - Mechatronics (combination of mechanical and electronic)
  - Electrical;
  - Software;
  - Ergonomics.

- Each discipline brings along its own technologies which are applied to the Industrial Automation Systems and Machinery being developed.

- As such, the skill set required is extensive and multi-discipline. The combination of all these technologies enables manufacturers like ATS Group to create and develop solutions in Industrial Automation Systems and Machinery to meet customers' needs.

Computing Technology

- The Industrial Automation Systems and Machinery today are controlled by software. Computing technology provides the man-machine interface where all the desired action steps, conditions and rules are coded and commonly sits in a server or computer dedicated to the Automation System.

- In addition, the software must run in real-time and able to multi-task. This is because in an Automation System, a number of tasks are executed at the same time. In addition there is the need to be able to react to sudden and unscheduled situations that requires instantaneous action, particularly in situations that affects operator safety and prevention of accidents.

- Computing technology is the key control mechanism that provides the automation in any Automation Systems and Machinery.

- Computing technology also enables performance monitoring, tracking and feedback for further analysis.

- ATS Group uses significant computing technology in its Automation System and Machinery. All its computing software is designed and developed in-house.

Clean Room Technologies

- Clean room is a work area where the air quality in terms of airborne particles, temperature and humidity are highly regulated in order to protect sensitive equipment from contamination. Clean rooms are particularly important for the semi-conductor industries, for example in the production of silicon chips and hard disk drives.

- The air in the Clean Room is constantly filtered to minimise airborne particles and other impurities.

- The measure of air quality in Clean Room uses a "Class" system for example Class 1, Class 10, Class 100 and Class 10,000. Clean Rooms that are rated Class 1 must not have more than one particle equal or larger than 0.5 microns in any given cubic foot of air.

- Thus, any machinery utilised in a Clean Room must minimise introduction of airborne particles, created through friction and wear and tear under normal machine operation.

- As such there are significant technologies involved in Designing and Manufacturing Automation Systems and Machinery for Clean Room conditions.

- ATS Group uses Clean Room technologies in its Design and Manufacture of Clean Room Class 1 Intelligent Conveyor Transport System. Its future plans also include the development of other types of Automation Systems and Machinery that meet Clean Room Class 1 standards.

Servo Motor Technologies

- A Servo is a small device that has an output shaft that can be positioned to specific angular positions by sending a coded signal. As long as the coded signal exists on the input line, the servo will maintain the angular position of the shaft. As the coded signal changes, the angular position of the shaft changes.

- Servos are used in radio controlled airplanes, cars, puppets and robots. Servos are extremely useful in robotics. The motors are small, have built in control circuitry, and are extremely powerful for their size.

- The servo motor has some control circuits and a potentiometer (a variable resistor, also known as pot) that is connected to the output shaft. The potentiometer allows the control circuitry to monitor the current angle of the servo motor. A normal servo is used to control an angular motion of between 0 and 180 degrees.

- The amount of power applied to the motor is proportional to the distance it needs to travel. So, if the shaft needs to turn a large distance, the motor will run at full speed. If it needs to turn only a small amount, the motor will run at a slower speed. This is called proportional control.

- The control wire is used to communicate the angle. The angle is determined by the duration of a pulse that is applied to the control wire. This is called Pulse Coded Modulation. The servo expects to see a pulse every 20 milliseconds (.02 seconds). The length of the pulse will determine how far the motor turns. A 1.5 millisecond pulse, for example, will make the motor turn to the 90 degree position (often called the neutral position). If the pulse is shorter than 1.5 millisecond, then the motor will turn the shaft to closer to 0 degrees. If the pulse is longer than 1.5 millisecond, the shaft turns closer to 180 degrees.

- Servo motor technologies is particularly important in the Design and Manufacture of Automation Systems and Machinery where robotic arms are commonly employed as well as the need for other moving parts.

5.2 Facilities and Personnel

- ATS Group has an R&D facility that allows it to design, prototype and test its products.
- As at 31 March 2004, ATS Group has two technical personnel who are involved in R&D.
- As most of the R&D activities are focussed on the designing and engineering of machinery and equipment the main skills required are primarily in mechanical engineering, mechatronics, electrical engineering as well as computer software development.
- As many of these skills are commonly available, there is a low threat in obtaining skilled resources for its R&D work.
- In addition, the number of R&D personnel can easily be expanded if required.

5.3 On-Going Research and Development

Test Handling System

- As at 29 February 2004, on-going R&D undertaken by ATS Group include the development and commercialisation of surface mount diode test handler.
- Currently ATS Group is able to achieve throughput of 12,000 units per hour handling medium sized diode. On-going R&D will expand capabilities to handle 18,000 units per hour of small and large sized diodes.

System Control Software

- ATS Group is constantly researching and developing new features and enhancements to its core system control software.
- Among others, some of its continuing R&D efforts are focused on safety enhancement as follows:
  - building more safety interlocking system:
    - protection door interlocking
    - hazard isolation
  - several security level access
  - emergency handling procedures.

Manufacturing Process Improvement

- ATS Group continuously focuses on process improvement, particularly in enhancing its manufacturing processes. This is critical as it has a direct impact on manufacturing efficiency, effectiveness, and productivity.

- Through improvements in manufacturing processes ATS Group aims to achieve the following key benefits:
  - increased cost competitiveness for its products and services;
  - improved product quality;
  - faster turnaround for manufactured products.

- As such, the Group undertakes R&D through:
  - Selection of process flow best practices;
  - Continuous evaluation and improvement of existing processes and procedures to optimise work flow;
  - Modification of existing machinery and equipment to increase efficiency in the production process;
  - Creation of new peripherals and jigs to increase effectiveness and efficiency of production;
  - Application of innovative and new technologies.

- As the core of ATS Group's manufacturing relies significantly on the various disciplines of engineering and computing, ATS Group also undertakes significant R&D in related engineering fields to improve its manufacturing processes.

5.4 Future Research and Development

- Future R&D targeted by ATS Group are as follows:

  New Products
  - Clean Room Class 10 Assembly Systems (used in Clean Rooms under conditions where there are no more than ten particles equal to or greater than 0.5 micron in one cubic foot of air).
  - High Speed Test Mark Cure System for Miniaturisation Package;
  - Colour Recognition Vision System.

  Improved and Standardised Products for Mass Manufacturing
  - Test Handling System;
  - Laser Marking System;
  - Fully Automated Assembly System.

  Sub-System and Software
  - Software Development;
  - Design Tools Development;
  - Vision System;
  - Manufacturing Process Improvement.

- ATS Group's R&D activities are focussed on developing specific products and systems, as well as supporting sub-systems, products and processes.

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6. ORGANISATIONAL STRUCTURE

- The organisational structure of ATS Group upon listing will be as follows:

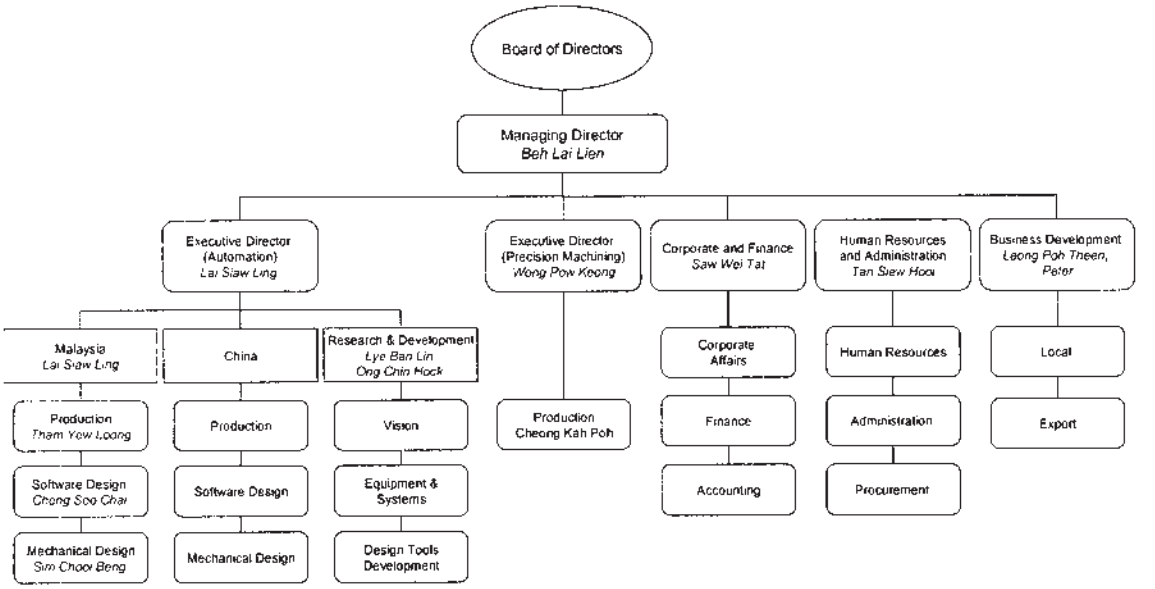


Figure 6 Proposed Organisation Chart of ATS Group

7. REPORT QUALIFICATIONS

In preparing this report, Vital Factor Consulting Sdn Bhd relied primarily on information furnished by the Directors and key Management of ATS Group. No representations, expressed or implied are made of such information. Nevertheless, Vital Factor Consulting Sdn Bhd had obtained confirmation from the Directors and Management that all relevant material facts and information critical to the assessment have been disclosed to Vital Factor Consulting Sdn Bhd. The Directors and Management had also accepted responsibility for the accuracy and truth of the information provided and confirmed that after making all reasonable enquiries and to the best of their knowledge and belief, there are no facts or omission of which would render any information furnished to Vital Factor Consulting Sdn Bhd misleading. Wherever reasonable, Vital Factor Consulting Sdn Bhd had independently and objectively assessed the business and had undertaken due care and consideration to ensure that all information provided in this report are accurate and true and that there were no deliberate material omission of facts or information.

Yours sincerely

Wooi Tan
Managing Director
Vital Factor Consulting Sdn Bhd

11. EXECUTIVE SUMMARY OF THE INDEPENDENT INDUSTRY ASSESSMENT REPORT

(Prepared for inclusion in the Prospectus)

VITAL FACTOR CONSULTING
Creating Winning Business Solutions

Vital Factor Consulting Sdn Bhd
(Company No.: 266797-T)
75C & 77C Jalan SS22/19
Damansara Jaya
47400 Petaling Jaya
Selangor Darul Ehsan, Malaysia
Tel: (603) 7728-0248
Fax: (603) 7728-7248
Email: info@vitalfactor.com
Website: www.vitalfactor.com

17 JAN 2005

The Board of Directors
AT Systematization Berhad
49, Hilir Sungei Kluang 2
Bayan Lepas Industrial Park, Phase IV
11900 Bayan Lepas
Penang

Dear Sirs/Madam

Assessment of the Machinery and Equipment Industry

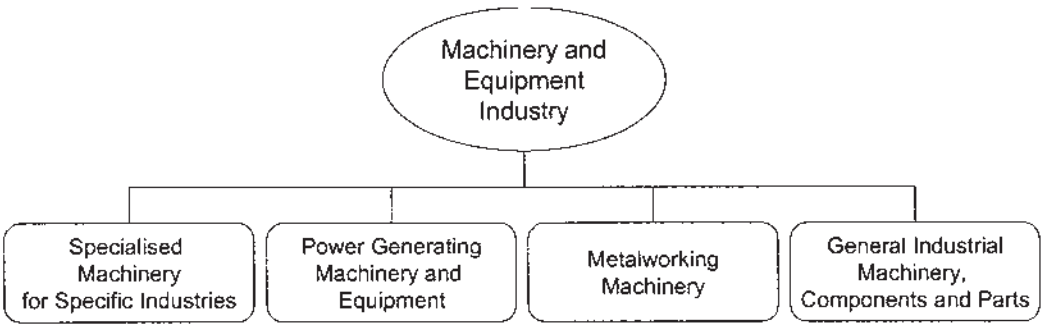
The following is a summary of the Assessment of the Machinery and Equipment Industry in Malaysia prepared by Vital Factor Consulting Sdn Bhd for the inclusion in the Prospectus of AT Systematization Berhad (herein together with all its subsidiaries will be referred to as ATS Group) in relation to its proposed listing on the MESDAQ market.

1. Background

- ATS Group is an Integrated Designer and Manufacturer of Industrial Automation Systems and Machinery with supporting activities including Fabrication of Parts and Equipment, and provision of Industrial Automation Support Products and Services.
- For the financial year ended 29 February 2004, the revenue of ATS Group amounted to RM18.8 million.

2. Structure of the Machinery and Equipment Industry

- According to the Malaysian Industrial Development Authority, the Machinery and Equipment Industry can be classified into four broad categories as follows:



Source: Manufacturing, Malaysian Industrial Development Authority

Figure 1. Structure of the Machinery and Equipment Industry

Specialised Machinery and Specific Industries

- The Specialised Machinery for Specific Industries sector caters to the needs of specific manufacturing industries and thus most of the machine and equipment are custom-made. Local companies that are involved in this sector undertake R&D, engineering design, innovation, assembly, testing, calibration and outsourcing of parts and components from local and imported sources.

- ATS Group falls within the Specialised Machinery sector of the Machinery and Equipment Industry.

- The major machinery and equipment manufactured under this sector include processing machinery for the Rubber and Palm Oil Industries and automation machinery and equipment for the Electrical and Electronics Industry.

- For the manufacturing of automation machinery and equipment, there are 30 companies involved in such production catering to the Electrical and Electronics Industry. The automation machinery and equipment include:
  - pick and place machines;
  - vision inspection systems;
  - integrated circuit (IC) test handlers;
  - tape and reel machines;
  - automatic moulding systems;
  - trim and form machines;
  - laser marking machines;
  - die bonders;
  - automatic dispensing machines.

  (Source: Malaysian Industrial Development Authority)

- In 2003, a total of 34 projects with an investment of RM202.1 million were approved within the Specialised Machinery sector, representing an increase of 43.7% compared to 24 projects with an investment of RM140.6 million in 2002.

- Within the Specialised Machinery sector, domestic investments constituted 63.1% or RM127.5 million of the overall investments in 2003. The remainder 36.9% or RM74.6 million were contributed by foreign investments.

  (Source: Malaysian Industrial Development Authority)

Power Generation Machinery and Equipment

- Within the Power Generation Machinery and Equipment sector, the main machinery and equipment produced were industrial broilers for general industrial applications.

- Currently, there are approximately 10 active manufacturers of industrial broilers in Malaysia, serving both the domestic and regional markets. According to industry sources, Malaysia is a leading manufacturer of industrial broilers in South East Asia.

Metalworking Machinery

- For the Metalworking Machinery sector, a total of RM169.3 million were approved in 2003. Domestic investment accounted for 97.3% whist foreign investment constituted the remainder 2.7% *(Source: Malaysian Industrial Development Authority)*.

General Industrial Machinery and Equipment

- In the General Industrial Machinery and Equipment sector, major machinery and equipment produced include:
  - industrial air conditioning plant and equipment;
  - elevators;
  - cranes;
  - pressure vessels;
  - heat exchangers;
  - ultrasonic cleaning machines.

- In 2003, a total of RM216 million was invested in the sector, of which 59.8% was contributed by domestic investment. The remainder 40.2% was contributed by foreign investment. *(Source: Malaysian Industrial Development Authority)*.

3. Vertical Structure of Machinery and Equipment Industry

- The manufacturing of Machinery and Equipment can also be vertically extended to include upstream and downstream activities as follows:

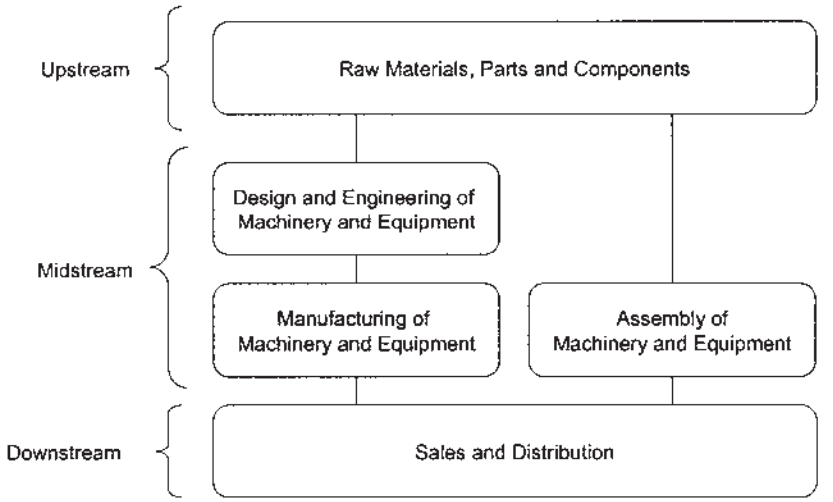


Figure 2 Vertical Structure of the Machinery and Equipment Industry

Upstream

- Upstream activities primarily involve the supply of raw materials like iron and steel sheets and plates, and other metal products, and parts and components.

- Locally, the Basic Metal Products Industry includes the following:
  - ferrous metal products, namely iron and steel;
  - non-ferrous metal products, namely aluminium, tin, copper, zinc and lead.

Midstream

- Mid-stream activities include the following:
  - Design of Machinery and Equipment;
  - Fabrication of Precision Parts, Jigs and Fixture;
  - Manufacturing of Machinery and Equipment.

- ATS Group's business activities are mainly focused on midstream activities.

- Within the manufacturing of Machinery and Equipment, most of Malaysia's machinery and equipment manufacturers produce Specialised Machinery for Specific Industries, Power Generating Machinery and Equipment, and General Industrial Machinery as well as Components and Parts.

- The machinery and equipment produced are usually for niche market applications, low volume or batch production or made to order, reflecting local manufacturers' capabilities in engineering design, innovation and Research and Development (R&D). The average value input for these production range between 40% and 60% *(Source: Malaysian Industrial Development Authority)*.

- The Engineering Supporting Industry encompasses:
  - moulds;
  - tools and dies;
  - machining;
  - metal stamping;
  - metal surface treatment/finishing;
  - heat treatment;
  - metal casting.

- ATS Group also has in-house engineering supporting activities including Machining and Tooling (Note: All the other engineering supporting activities listed above are not undertaken by ATS Group.)

- Within the Engineering Supporting Industry, in 2003, there were 75 projects approved involving a total investment of RM777.1 million compared with 46 projects involving a total investment of only RM292.3 million in 2002 *(Source: Malaysian Industrial Development Authority)*.

Downstream

- Downstream activities involve the services sector, which include sales and distribution.

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4. Government Legislation, Policies and Incentives

- Apart from the normal manufacturing licence, there are no material government laws, regulations and policies that may impede on operators' performance and growth within a free enterprise environment.

- Application of a manufacturing licence under the Industrial Coordination Act, 1975 is mandatory for companies with shareholders' funds of RM2.5 million or above or engaging 75 or more full-time employees (*Source: Malaysian Industrial Development Authority*).

Government Incentives

- As part of the Malaysian Government's intention to nurture the growth and development of the Machinery and Equipment Industry, there are incentives provided for companies in the manufacture of machinery and machinery components under the Promotion of Investments Act 1986. The incentives include:
  - Pioneer Status;
  - Investment Tax Allowance;
  - Reinvestment Allowance.

  (*Source: Malaysian Industrial Development Authority*)

- The promoted activities and products classified under the manufacture of machinery and machinery components, among others, include the development and production of the following:
  - industrial machinery and equipment;
  - agricultural machinery and equipment;
  - mining or mineral processing machinery or equipment;
  - power generating machinery or equipment;
  - construction machinery or equipment;
  - material handling equipment;
  - machine tools, hand tools or power tools.

- There are also incentives provided for high technology companies in the automation and flexible manufacturing systems under the Promotion of Investments Act 1986. According to the Malaysian Industrial Development Authority, high technology companies are referred to companies engaged in promoted activities or in the production of promoted products in areas of new and emerging technologies.

- The promoted activities and products classified under the automation and flexible manufacturing systems include the development and production of the following:
  - computer process control systems/equipment;
  - process instrumentation;
  - robotic equipment;
  - Computer Numerical Control (CNC) machine tools.

- Eligibility for either the Pioneer Status or Investment Tax Allowance will be determined according to the priorities termed as "promoted activities' or "promoted products". In addition, the level of value-added, technology and industrial linkages will also be taken into consideration.

5. Environmental Regulations

- In the process of manufacturing machinery and equipment, the main waste material generally produced by the Machinery and Equipment Industry is waste oil.

- The waste oil is created during the following production process:
  - change of machine lubricating oil;
  - change of degreaser during degreasing.

- The disposal of waste oil is regulated under 'spent oil or grease used for lubricating industrial machines' of scheduled wastes from non specific sources in Environmental Quality Act 1974 and Environmental Quality (Scheduled Wastes) Regulations 1989 (*Source: Environmental Quality Act and Regulations*).

6. Supply and Supply Dependencies

Supply

- In 2000, the gross output value of the manufacture of Lifting and Handling Equipment (including the manufacture of Clean Room (Class 1) Intelligence Conveyor Transport Systems) amounted to RM335.3 million.

- In 2000, gross output value of the manufacture of Other Special Purpose Machinery Not Elsewhere Classified (including Automated Production Line Integration Systems, Fully Automated Assembly Systems, Automated Test Handling Systems, Automated Laser Marking and Inspection Systems) reached RM343.6 million.

- The import value of Machinery Specialised for Particular Industries increased at an average annual rate of 2.0% between 1999 and 2003. In 2003, the import value of Machinery Specialised for Particular Industries increased by 5.2% to RM8.0 billion over the previous year.

- Between 1999 and 2003, the import value of Other Machines or Mechanical Appliances Having Individual Functions, Not Elsewhere Specified (including Fully Automated Assembly Systems, Automated Laser Marking and Vision Inspection Systems, and Automated Test Handling Systems) declined at an average annual rate of 1.7%. In 2003, the import value decreased by 1.0% to reach approximately RM2.0 billion.

- Between 1999 and 2003, the import value of Electrically or Electronically Operated Machines and Appliances for Testing Metals (including Automated Laser Marking and Vision Inspection Systems) increased at an average annual rate of 13.7%. In 2003, the import value of increased by 72.8% to RM16.7 million.

- Between 1999 and 2003, the import value of Other Machinery – Other Lifting, Handling, Loading or Unloading Machinery (including Clean Room Class 1 Intelligent Conveyor Transport Systems) increased at an average annual rate of 6.9%. In 2003, the import value of decreased by 23.3% to RM52.1 million.

- Between 1999 and 2003, the import value of Other Instruments, Appliances and Machines of Measuring or Checking Instruments, Appliances and Machines (including Automated Production Line Integration Systems) decreased at an average annual rate of 8.9%. However, in 2003, the import value of increased by 14.7% to RM651.8 million.

  (Source: Department of Statistics Malaysia).

Supply Dependencies

- Generally, there are many different types of raw materials required for the manufacturing of Machinery and Equipment.

- However some of the major raw materials required for the manufacturing of Machinery and Equipment focusing on Specialised Industrial Machinery and Equipment include:
  - Other Fabricated Metal Products, not elsewhere classified;
  - Pumps (other than pumps for liquid) and compressors and fans;
  - Heating and Cooling Equipment and Parts thereof, not elsewhere specified.

- The manufacture of Other Fabricated Metal Products, not elsewhere classified includes general purpose parts for machinery and specialised parts of machinery and equipment.

- Malaysia is a producer of Other Fabricated Metal Products. In 2003, the sales value manufacture of Other Fabricated Metal Products, not elsewhere classified, amounted to RM3.6 billion, a growth of 0.4% over the previous year *(Source: Department of Statistics)*.

- Malaysia has an engineering supporting industry, which encompasses moulds, tools and dies, machining, metal stamping, metal surface treatment/finishing, heat treatment and metal casting. This is supported by the following approximate number of companies in the engineering supporting industry in Malaysia:
  - 300 mould, tool and die companies in operation;
  - 150 machining companies in operation;
  - 300 metal stamping companies;
  - 35 metal surface treatment/finishing companies in operation;
  - 70 foundry companies in operation;
  - 60 die-casting companies in operation.

  (Source: Malaysian Industrial Development Authority)

7. Demand Dependencies

- Demand for Machinery and Equipment is dependent on the following markets:
  - Local;
  - Export.

- The export value of Machinery Specialised for Particular Industries increased at an average annual rate of 12.7% between 1999 and 2003. In 2003, the export value of Machinery Specialised for Particular Industries increased by 23.7% to RM3.2 billion over the previous year.

- Between 1999 and 2003, the export value of Other Machines or Mechanical Appliances Having Individual Functions, Not Elsewhere Specified (including Fully Automated Assembly Systems, Automated Laser Marking and Vision Inspection Systems, and Automated Test Handling Systems), grew at an average annual rate of 8.6%. In 2003, the export value increased by 25.1% to RM498.9 million.

- Between 1999 and 2003, the export value of Other Machinery – Other Lifting, Handling, Loading or Unloading Machinery (including Clean Room Class 1 Intelligent Conveyor Transport Systems), increased at an average annual rate of 4.8%. In 2003, the export value increased by 138.4% to RM28.4 million.

- Between 1999 and 2003, the export value of Electrically or Electronically Operated Machines and Appliances for Testing Metals (including Automated Laser Marking and Vision Inspection Systems), increased at an average annual rate of 95.2%. In 2003, the export value increased by 351.1% to a value of RM3.0 million.

- Between 1999 and 2003, the export value of Other Instruments, Appliances and Machines of Measuring or Checking Instruments, Appliances and Machines (including Automated Production Line Integration Systems) increased at an average annual rate of 24.7%. In 2003, the export value increased by 13.1% to a value of RM233.1 million.

(Source: Department of Statistics Malaysia)

8. Competitive Nature and Intensity

- Operators in the Machinery and Equipment Industry face **normal competition** conditions.

- Competition exists in two areas:
  - Local market;
  - Global market.

- At the local level, manufacturers within the Machinery and Equipment Industry compete with other Malaysian manufacturers as well as with imports.

- At the global level, Malaysian manufacturers of Machinery and Equipment Industry compete against foreign manufacturers as well as other Malaysian export-oriented manufacturers.

- The nature of competition in the global arena is also segmented based on market perception:

  - Countries commonly associated with producing high quality, complex and robust machinery and equipment are Germany and Japan. Machinery and equipment from these countries are usually more expensive.

- Countries commonly associated with producing less robust and lower quality machinery and equipment are Taiwan and China. Machinery and equipment from these countries are usually priced significantly lower.

- Competition among operators in the Machinery and Equipment Industry focusing on the manufacturing of Automation Machinery and Equipment for the Electrical and Electronics Industry is **moderate**.

Factors that Moderates Competitive Intensity

- In 2003, there were 30 companies involved in the manufacturing of Automation Machinery and Equipment catering to the Electrical and Electronics Industry in Malaysia *(Source: Malaysian Industrial Development Authority)*. This represents a relatively small number of operators in an industry that exports RM223.5 billion worth of Electrical and Electronics products in 2003 *(Note: Preliminary figures) (Source: Department of Statistics and Bank Negara Annual Report 2003)*

- Requirements of the Electrical and Electronics Industry are more stringent compared to other industries, for example the Metalworking Machinery sector. The Electrical and Electronics Industry are typified by machinery and equipment requiring to meet some of the following operating conditions:
  - high speed based on number of units done per hour
  - precise with tolerance as low as 1 to 3 microns
  - handling small parts and components
  - dealing with highly sensitive components and finished products
  - clean as most of these machines are used in air-conditioned and relatively clean environment (not necessary Clean Room conditions).

  As such, there are typically less manufacturers able to meet such stringent requirements, which moderate the intensity of competition.

- Specialised Automation Machinery and Equipment are custom-made niche market machinery, which cater to the needs of specific manufacturing environment. Hence, manufacturers are in a competitive position if they can meet the following:
  - conform to international quality standards including ISO accreditation and compliance;
  - meet the requirements and specifications of customers;
  - ability to integrate machinery and systems in achieving greater functional flexibility, reliability, efficiency and speed;
  - capability to undertake in-house research development, engineering design and testing in order to customise and modify machinery and equipment based on varying end-users' requirement.

- In addition, manufacturers that are able to differentiate themselves through specialised skills and offerings would face less competition. Some of these include the following:

  - ability to manufacture machinery and equipment for various classes (for example Class 1 to Class 10) of Clean Room and Clean Zone conditions;
  - ability to manufacture machinery and equipment that can comply with Good Manufacturing Practices (GMP) environment;

- incorporation of vision systems that is able to differentiate, for example, colours, shapes and markings.
- incorporation of robotics that are multi-tasks and precise.

- Thus, with different degrees of accreditations, specialisations and capabilities, competition is moderated as not all manufacturers have the same skill sets and capabilities.

Factors that Increase Competitive Intensity

- As Malaysia is still a net importer, in value terms, of machinery and equipment, Malaysia faces significant competition from imported machinery and equipment particularly from Japan, Taiwan, Germany and China. Overseas competition increases the competitive intensity for operators in the industry.

  - In 2003, the imports of machinery and equipment amounted to approximately RM25.1 billion whilst export value was RM11.3 billion *(Source: Malaysian Industrial Development Authority)*.

  - In 2003, the import value of Machinery Specialised for Particular Industries increased by 5.2% to RM8.0 billion over the previous year. *(Source: Department of Statistics)*.

- Although the requirements for the Electrical and Electronics Industry is stringent for Automation Systems and Machinery, there are "back-yarders" that are not registered with the Malaysian Industrial Development Authority and are able to meet some of the requirements of the Electrical and Electronics Industry. Most of these will be for the low end and relatively simpler operations and functions. However, their relatively lower cost would place competitive pressure, especially to manufacturers that are focussed at the low-end of the requirements.

9. Registered Manufacturers in the Industry

- Some of the registered players in the Machinery and Equipment Industry focusing on Automation Machinery and Equipment are as follows:
  - AT Systematization Berhad (through subsidiary, AT Engineering Sdn Bhd)
  - Eng Teknologi Sdn. Bhd
  - Pentamaster Technology (M) Sdn. Bhd
  - LKT Automation Sdn Bhd
  - Polytool Automation Sdn Bhd
  - Norelco Centreline Sdn Bhd
  - NEC Machinery (M) Sdn Bhd
  - Tateyama Auto Machines Co. (M) Sdn Bhd
  - Ismeca (Malaysia) Sdn Bhd
  - Aapico-Pilecon (M) Sdn Bhd
  - ASM Technology Sdn Bhd
  - Autoveyor (M) Sdn Bhd
  - Micro Modular System Sdn Bhd
  - Cosmo Industrial Automation Sdn Bhd
  - Cosmo Engineering Sdn Bhd
  - Ever Technologies Sdn Bhd

- Greatech (M) Sdn Bhd
- Janway Industry (M) Sdn Bhd
- Matromatic Handling Systems (M) Sdn Bhd
- Prodelcon Sdn Bhd
- Towam Sdn Bhd
- Advantest-Eng (M) Sdn Bhd
- Goda (M) Sdn Bhd
- Kyoritsu Industry (M) Sdn Bhd
- Ohnishi Electronics (M) Sdn Bhd
- Wong Engineering Industries Sdn Bhd
- Soritsu Technology Malaysia Sdn Bhd
- Pentamech Technology Sdn Bhd
- CFM Technologies Sdn Bhd
- Elemac Precision Engineering Sdn Bhd
- Creden Mechatronics Sdn. Bhd

10. Barriers to Entry

- Generally, barriers to entry into the Machinery and Equipment Industry are **moderate to high**. This is mainly substantiated by the following:

  - Within the manufacturing of Specialised Machinery for Specific Industries, there are about 20 companies specialising in the manufacturing of rubber and palm oil processing machinery and equipment, whilst 30 companies involving in the production of automation machinery and equipment for the Electronics and Electrical Industry.

  - Within the manufacturing of Power Generation Machinery, there are approximately 10 active manufacturers of industrial broilers in Malaysia.

  - Within the manufacturing of Metalworking Machinery, there are 5 companies involved in the manufacturing of machine tools.

  - For General Industrial Machinery and Equipment, there are 7 manufacturers of industrial air conditioning plant and equipment, 5 companies producing elevators, 85 companies producing pressure vessels and heat exchangers, 6 companies producing tower cranes, port cranes, overhead travelling cranes and other lifting equipment.

(Source: Malaysian Industrial Development Authority)

Capital and Set-up Costs

- The barriers to entry based on capital requirements (excluding land and building) for the Machinery and Equipment Industry are **low.**

- The capital investment required to start up a small sized manufacturing facility would cost approximately RM500,000 (excluding land and building). Revenue would depend significantly on ability to win sales as the other production constrains are people related which could be hired if there is a business case to do so. With such capital set-up cost, it is possible for the small sized manufacturing set-up to generate revenue of RM2 million to RM4 million per year *(Source: Primary Market Research undertaken by Vital Factor Consulting)*

- Capital costs start to escalate for larger operations within the manufacturing of Machinery and Equipment Industry.

- However, smaller sized operators will face difficulties in competing with larger operators that have the advantage of economies of scale, this is in consideration of the diverse end-user industries and export markets served by larger operators that have the capital resources and capability to innovate, design, engineer as well as manufacture different types of machinery and equipment based on a few standard manufacturing platforms.

Technical Skills

- Generally, the skill level of labour used in the Equipment and Machinery Industry is high. Some of the key personnel required include the following:

  - Professional engineers and technical personnel with engineering background, experienced in mechanical engineering, exposure to computer software development and technology, as well as mechatronic engineering.

  - Large-pool of semi-skilled and general labour, usually recruited from vocational schools. At this level of skill, workers would have undergone extensive training and have experience in welding and metalwork.

- Skilled labour with extensive experience are essential in various aspect of machinery and equipment manufacturing operations as each production line caters to customised manufacturing and requires significant engineering skills and technical knowledge to produce machinery and equipment.

- Experienced and trained workers are also required in the operation of machinery and equipment to conduct machinery and equipment testing and optimise the level of productivity.

- Thus, having access to a pool of skilled labour that is experienced would pose some barriers of entry for new entrants.

- In addition, the ability to develop and build machinery and equipment based on various end-user requirements would enable manufacturers to maintain their competitive edge by keeping abreast with changing trends and needs of industrial users.

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Track Record and Quality Assurance Program

- As machinery and equipment particularly are tools for the production of various end-products, quality assurance is an important factor. As such, manufacturers that have stringent quality assurance programmes in place including ISO accreditation and compliance to standards are important factors in securing sales.

- In addition, operators that have a strong track record would have a significant advantage in winning sales compared to new entrants.

11. Industry Outlook and Growth Forecast

- The outlook for the Specialised Industrial Machinery and Equipment Industry in Malaysia is **favourable.**

- The Specialised Industrial Machinery and Equipment is forecasted to grow at approximately **5% to 8%** per annum for the next five years.

- This is mainly substantiated by the following analysis and observations:

Local Production

- Gross output value of manufacture of Specialised Industrial Machinery and Equipment grew at an average annual rate of 3.0% from 1995 to 1999. In 1999, gross output value reached RM353.5 million;

- In 2000, the gross output value of the manufacture of Lifting and Handling Equipment was RM335.3 million;

- Gross output value of the manufacture of Other Special Purpose Machinery Not Elsewhere Classified reached RM343.6 million in 2000.

(Source: Department of Statistics Malaysia)

Exports

- The export value of Machinery Specialised for Particular Industries increased at an average annual rate of 12.7% between 1999 and 2003. In 2003, the export value increased by 23.7% to RM3.2 billion over the previous year *(Source: Department of Statistics Malaysia)*;

- Between 1999 and 2003, the export value of Other Machines or Mechanical Appliances Having Individual Functions, Not Elsewhere Specified (including Fully Automated Assembly Systems, Automated Laser Marking and Vision Inspection Systems, and Automated Test Handling Systems), grew at an average annual rate of 8.6%. In 2003, the export value increased by 25.1% to RM498.9 million.

- Between 1999 and 2003, the export value of Other Machinery – Other Lifting, Handling, Loading or Unloading Machinery (including Clean Room Class 1 Intelligent Conveyor Transport Systems), increased at an average annual rate of 4.8%. In 2003, the export value increased by 138.4% to RM28.4 million.

- Between 1999 and 2003, the export value of Electrically or Electronically Operated Machines and Appliances for Testing Metals (including Automated Laser Marking and Vision Inspection Systems), increased at an average annual rate of 95.2%. In 2003, the export value increased by 351.1% to a value of RM3.0 million.

- Between 1999 and 2003, the export value of Other Instruments, Appliances and Machines of Measuring or Checking Instruments, Appliances and Machines (including Automated Production Line Integration Systems) increased at an average annual rate of 24.7%. In 2003, the export value increased by 13.1% to a value of RM233.1 million.

(Source: Department of Statistics Malaysia)

Imports

- Malaysia is still a net importer, in value terms, of Machinery and Equipment. In 2003, the imports of Machinery and Equipment amounted to RM25.1 billion. Malaysia continues to import machinery and equipment to meet industrial as well as high technology industries' needs *(Source: Malaysian Industrial Development Authority)*.

- The import value of Machinery Specialised for Particular Industries increased at an average annual rate of 2.0% between 1999 and 2003. In 2003, the import value of Machinery Specialised for Particular Industries increased by 5.2% to RM8.0 billion over the previous year *(Source: Department of Statistics)*.

- Between 1999 and 2003, the import value of Other Machines or Mechanical Appliances Having Individual Functions, Not Elsewhere Specified (including Fully Automated Assembly Systems, Automated Laser Marking and Vision Inspection Systems, and Automated Test Handling Systems) declined at an average annual rate of 1.7%. In 2003, the import value decreased by 1.0% to reach approximately RM2.0 billion.

- Between 1999 and 2003, the import value of Electrically or Electronically Operated Machines and Appliances for Testing Metals (including Automated Laser Marking and Vision Inspection Systems) increased at an average annual rate of 13.7%. In 2003, the import value of increased by 72.8% to RM16.7 million.

- Between 1999 and 2003, the import value of Import Value of Other Machinery – Other Lifting, Handling, Loading or Unloading Machinery (including Clean Room Class 1 Intelligent Conveyor Transport Systems) increased at an average annual rate of 6.9%. In 2003, the import value of decreased by 23.3% to RM52.1 million.

- Between 1999 and 2003, the import value of Other Instruments, Appliances and Machines of Measuring or Checking Instruments, Appliances and Machines (including Automated Production Line Integration Systems) decreased at an average annual rate of 8.9%. However, in 2003, the import value of increased by 14.7% to RM651.8 million.

  (Source: Department of Statistics)

End-User Industry Sectors

The performances of some of the end-user industries for Machinery and Equipment are as follows:

- Between 1999 and 2003, the production index of the Electrical and Electronics Products grew at an average annual rate of 10.3%. In 2003, the production index recorded growth of 8.1% *(Source: Bank Negara Malaysia)*;

- Between 1999 and 2003, the sales value of Semiconductors and Other Electronic Components and Communication Equipment and Apparatus grew at an average annual rate of 4.4%. In 2003, the sales value increased by 8.4% to RM100.3 billion over the previous year *(Source: Department of Statistics Malaysia)*;

- Between 1991 and 1999, gross output value of Medical Services grew at an average annual rate of 10.2%. In 1999, gross output value increased to RM1.2 billion from RM566 million in 1991 *(Source: Department of Statistics Malaysia)*.

12. Threats and Risk Analysis

- Areas of threats and risks for operators within the Machinery and Equipment Industry in general and the Specialised Industrial Machinery and Equipment Industry in particular are as follows:

- **Lack of Engineering Supporting and Ancillary Activities**

  Engineering supporting and ancillary activities including foundries, forging, heavy and precise machining, heat treatment electroplating as well as moulds and dies making are critical in supporting the growth of the Machinery and Equipment Industry.

  The Engineering Supporting and Ancillary Industry are weak and fragmented. Such a situation has the potential of shrinking existing market and deterring any development of the Machinery and Equipment Industry.

Mitigating Factors

Recognising the current situation of the Engineering Supporting and Ancillary Industry, some major developments of the industry have taken place. These include:

- The establishment of the Rasah Machinery and Equipment Technology Centre (RAMET) under SIRIM Berhad has been earmarked not only for developing human resources within the engineering sector but more so on providing standards testing facilities and promoting cluster development through the grouping of small, medium and big foundry, operators of machining, forging, heat treatment, tool, die making and welding. RAMET was established in 2003.

- The Mould and Die Design Centre approved under the Eighth Malaysia Plan is in its first phase of implementation and is providing Computer-Aided-Design (CAD) system services to 16 Small Medium Enterprises. The centre is in the progress of renovation. Upon completion in 2005, the centre will promote the usage of the CAD systems by SME.

These developments are in tandem with the thrust of the Government and aimed towards strengthening the foundation of local Engineering Supporting and Ancillary Industry in support of further growth within the Machinery and Equipment Industry.

- **Competitive Pressure from Overseas Players**

Malaysia is still a net importer, in value terms, of Machinery and Equipment. Between In 2003, the imports of machinery and equipment amounted to RM25.1 billion whilst export value was only RM11.3 billion. Malaysia continues to import machinery and equipment to meet industrial as well as high technology industries' needs *(Source: Malaysian Industrial Development Authority)*.

Major import threats of Machinery and Equipment are from Japan, Taiwan, China and Germany.

Mitigating Factors

Despite Malaysia's current position as a net importer of Machinery and Equipment, the Government has identified the Machinery and Equipment Industry, a high value-added and high technology product sector, as one of the key areas for growth and development.

In recognition of the growth opportunities, various incentives have been introduced to high technology companies including:

- Pioneer Status
- Investment Tax Allowance
- Tax-related incentives within the Machinery and Equipment Industry based on the level of value-added input.

In addition to the Government incentives, operators that are able to provide high value-adding, undertake research and development, customise engineering design and services, would be in a better position to sustain business and minimise competitive threats.

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- **Availability of Skilled Manpower**

  There is a shortage of skilled technical workers within the Machinery and Equipment Industry in Malaysia *(Source: Malaysian Industrial Development Authority)*. The shortage of technical professionals is a concern to the operations of the Machinery and Equipment Industry. The shortage of skilled and experienced labour may hamper the growth of the industry in general.

  Mitigating Factors

  In ensuring long-term and sufficient supply of skilled technical professionals, technical institutions and centres namely the RAMET and the Mould and Die Design Centre are in a position to provide technical training and assistance to fortify the engineering base in the country.

  In addition, it is estimated that 64,516 students will be enrolled in Engineering course, representing 98.9% of overall technical courses enrolment in local public higher education institutions *(Source: Prime Minister Department)*.

  With the high and preferred Engineering courses enrolment and graduation as well as the Government support in developing the technical skill base in Malaysia, the industry is anticipated to have a pool of skilled resources to sustain growth.

13. Market Size and Market Share

- In 2003, the estimated market size of the Specialised Industrial Machinery and Equipment Industry based on production output was approximately **RM800 million** in Malaysia.

- In 2003, the estimated market share of ATS Group within the Specialised Industrial Machinery and Equipment Industry based on production output was approximately **2%** in Malaysia.

Vital Factor Consulting Sdn Bhd has prepared this report in an independent and objective manner and has taken all reasonable consideration and care to ensure the accuracy and completeness of the report. It is our opinion that the report represents a true and fair assessment of the industry within the limitations of, among others, secondary statistics and information, and primary market research. Our assessment is for the overall industry and may not necessarily reflect the individual performance of any company. We do not take any responsibilities for the decisions or actions of readers of this document. This report should not be taken as a recommendation to buy or not to buy the shares of any company.

Yours sincerely

Wooi Tan
Managing Director
Vital Factor Consulting Sdn Bhd

12. DIRECTORS' REPORT

(Prepared for inclusion in the Prospectus)

AT *Systematization Berhad* (644800-X)
Plot 49, Bayan Lepas Industrial Zone Phase IV,
Hilir Sungai Kluang 2, 11900 Bayan Lepas, Penang, Malaysia.
Tel: 6-04-6447771 Fax: 6-04-6447773
URL : www.ate.com.my e-mail : at@ate.com.my

Registered Office:
Suites 704 & 705, 7th Floor
No.11, Lorong Kinta
10400 Penang

20 January 2005

To: The Shareholders

AT Systematization Berhad ("ATS" or "Company")

Dear Sir/Madam,

On behalf of the Board of Directors of ATS, I report that after making due enquiries in relation to the interval between 30 November 2004, being the date to which the last audited accounts of the Group and its subsidiary companies have been made up, and 20 January 2005, being a date not earlier than fourteen (14) days before the date this Prospectus:-

(a) the business of the Company and its subsidiary companies ("Group"), in the opinion of the Directors, has been satisfactorily maintained;

(b) save as disclosed in this Prospectus, in the opinion of the Directors, no circumstances have arisen since the last audited accounts of ATS and its subsidiary companies, which have adversely affected the trading or the value of the assets of the Group;

(c) the current assets of the Group appear in the books at values which are believed to be realisable in the ordinary course of business;

(d) save as disclosed in this Prospectus, no contingent liabilities have arisen by reason of any guarantees or indemnities given by Group;

(e) save as disclosed in this Prospectus, there have been no default or any known event that could give rise to a default situation, in respect of payments of either interest and/or principal sums in relation to any borrowings in which they are aware of; and

(f) save as disclosed in this Prospectus, there have been no material changes to the published reserves or any unusual factors affecting the profits of the Group, since the last audited accounts of ATS and its subsidiary companies.

Yours faithfully
For and on behalf of the Board of Directors of
AT SYSTEMATIZATION BERHAD

Beh Lai Lien
Managing Director