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**5. INDUSTRY OVERVIEW AND PROSPECTS**

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**5.1 ECONOMIC OUTLOOK****Global Economic Outlook**

The outlook for the global economy has become increasingly optimistic, following the strong upturn in the second half of 2003. Amidst improved prospects, most growth projections have been revised upwards. For 2004, world output and world trade are projected to grow at a faster pace of 4.1% and 5-6%, respectively. The Asian regional economies' share in global trade has also increased. Measured in terms of the share of world exports of goods and services, the region's share has increased from 16.3% in 1994 to 19.6% in 2002. Favourable export performance, continued growth in private consumption and expansion in investment are expected to lead to higher growth for the Asian regional economies in 2004.

Amidst a low inflation environment, the growth momentum in the US is expected to be supported by expansionary monetary and fiscal policy that have been in place for some time, as well as productivity gains, investment and inventory rebuilding. Growth in the euro area is expected to recover gradually as expansionary fiscal policies continue to be adopted in major euro area economies. While the economic recovery in Japan is affected by long-term structural problems, deflationary pressures have begun to ease and signs of sustainable recovery have emerged since the second half of 2003. In the UK, economic growth is expected to remain resilient, underpinned by public and private consumption.

*(Source: Bank Negara Malaysia Annual Report 2003)*

**Malaysian Economic Outlook**

Value added growth in the manufacturing sector is expected to increase by 5% in 2003, on the assumption of a modest global economic outlook. The rising trend in intra-regional trade is expected to continue to augment demand for export of manufactured goods. The general consensus is that growth would improve in the second half of the year.

Overall, indications point towards an improved outlook and higher optimism for 2004, despite the downside risks. Upbeat stock market activities across major bourses in the second half of 2003 should bolster optimism for a firmer economic recovery. Thus, the world economy is expected to post a higher growth of 4%.

The economy outlook for 2004 is envisaged to be favourable. Real GDP is expected to gain momentum and register a higher rate of 5.5% - 6.0% in 2004. Growth is expected to emanate from higher exports on account of continuing improvement in world economic prospects while domestic demand will continue to be driven by pro-growth fiscal and momentary measures.

*(Source: Economic Report 2003/2004)*

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## 5. INDUSTRY OVERVIEW AND PROSPECTS *(cont'd)*

### 5.2 INDUSTRY OVERVIEW

In the manufacturing sector, ongoing structural shift has become more evident as the sector's competitive advantages adjust from labour-intensive to higher technology-driven manufacturing processes. Greater efficiency in the use of resources is being realised through manufacturing companies operating more at a regional level, as seen in the relocation of some of the more labour-intensive industries to lower-cost countries. Key indicators such as the contribution of the manufacturing sector in terms of value added and employment, flows of investment as well as the retrenchment trend clearly suggest that the manufacturing sector continues to remain resilient.

The recent trend in overseas investment is a reflection of Malaysian companies seeking greater synergy based on locational advantages. Consequently, notwithstanding the investments abroad, the share of the manufacturing sector in terms of value added (GDP) and total employment have remained significant at 31% and 28% respectively in 2003. Employment in the manufacturing sector continues to expand, while retrenchments have moderated further in 2003.

Value added in the manufacturing sector is projected to pick up further to 10.2% in 2004 (2003: 8.2%), supported by the pick up in the global electronics industry and improved domestic demand. Of significance, the global semiconductor industry is expected to strengthen, supported by broad-based expansion across all geographical regions and products. This is premised on expectations of a strong increase in the global semiconductor capital and investment spending of 27.9% in 2004 (2003: 5.7%). Most industry experts are more optimistic on the prospects for the industry and have revised upward their growth forecast for 2004. In the recent dialogues between Bank Negara Malaysia and the private sector, manufacturers in the electronics sector in Malaysia also expressed a more optimistic outlook for the industry in 2004. Growth in the export-oriented industries is projected to expand at a more rapid rate of 13.8% (2003: 11.9%). Similarly, growth in the domestic-oriented industries is expected to strengthen to 8.3% (2003: 6.1%), due to improved demand for motor vehicles and construction-related materials.

*(Source : Bank Negara Malaysia Annual Report 2003)*

#### **Market Overview of the Medical Disposable Gloves Industry in the USA**

The U.S. disposable gloves market totaled \$1.4 billion in revenues in 2002, down 0.5 percent from the previous year. In terms of dollar revenues, the exam gloves market is the largest, followed by non-medical disposable gloves, and then surgical gloves. Key growth areas include powder-free natural rubber latex (NRL) exam and surgical gloves, nitrile and vinyl exam gloves, and synthetic surgical gloves. The dramatic increased usage of NRL gloves led to greater incidences of allergic reactions to proteins found in natural rubber latex. As a result, manufacturers shifted their production from powder NRL gloves to powder-free latex and synthetic gloves.

The U.S. medical examination gloves market will continue to grow gradually as patient volume increases. Although natural rubber latex dominates the examination gloves market, end users are slowly shifting to synthetic exam gloves to avoid allergic reaction to natural rubber latex. Fierce competition continues to drive prices down in all glove segments.

The sales of disposable medical gloves increased from 19,106 million units in 1998 to 20,150 million units in 2002. Powder-free natural rubber latex gloves and synthetic gloves are the key contributors to the growth of the overall medical gloves market. Revenues have been relatively flat in the past few years due to falling prices. However, prices are projected to flatten out in the future, allowing revenues to increase along with unit sales.

## 5. INDUSTRY OVERVIEW AND PROSPECTS (cont'd)

Disposable Medical Gloves Market: Unit Sales and Revenue Forecasts (U.S.), 1998-2008

Year	Units (Million)	Revenue (\$ Million)	Growth Rate (%)
1998	19,306	1,158.9	
1999	19,329	1,119.6	(3.4)
2000	19,576	1,091.1	(2.5)
2001	19,848	1,088.4	(0.2)
2002	20,190	1,096.6	0.8
2003	20,454	1,101.8	0.5
2004	20,736	1,112.5	1.0
2005	21,063	1,123.3	1.0
2006	21,296	1,148.2	2.2
2007	21,784	1,178.9	2.7
2008	22,176	1,211.6	2.8

Compound Annual Growth Rate (2002-2008): 1.8%

Note: All figures are rounded; the base year is 2002. Source: Frost & Sullivan

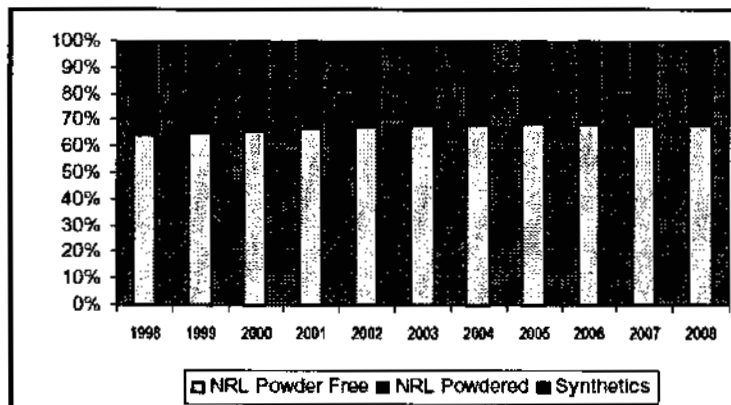
End-users are expected to continue shifting toward gloves that are free from any natural allergens that may be associated with natural rubber latex. The market has already moved toward powder-free rubber latex gloves. Revenue percentage of powdered natural rubber latex gloves are expected to continue to decline throughout the forecast period.

Total Disposable Medical Gloves Market: Revenues by Product Type (US), 1998-2008

Year	NRL Powder (%)	NRL Powder-Free (%)	Synthetic (%)	Total (%)
1998	22.6	64.2	13.2	100
1999	19.8	65.4	14.9	100
2000	17.2	66.0	16.8	100
2001	14.1	66.6	19.2	100
2002	11.9	67.2	20.9	100
2003	10.1	67.7	22.2	100
2004	8.6	68.1	23.3	100
2005	7.2	68.3	24.5	100
2006	6.0	68.5	25.6	100
2007	5.0	68.2	26.9	100
2008	4.1	67.8	28.1	100

Note: All figures are rounded; the base year is 2002. Source: Frost & Sullivan

Total Disposable Medical Gloves Market: Revenues by Product Type (US), 1998-2008



Source: Frost & Sullivan

## 5. INDUSTRY OVERVIEW AND PROSPECTS (cont'd)

### Market Overview of the Medical Disposable Gloves Industry in Europe

In 2002, the total European market, as defined in this report, was valued at almost \$304 million. With the developing desire to control hospital infections more effectively and the implications of the EU Medical Device directive, this figure is expected to rise over the forecast period. This is because the market realities combined with the regulatory and economic environment will drive conversion to powder-free and low protein gloves.

While there are some substantial differences between the various healthcare systems in Europe and the U.S. model, the medical disposable gloves market is expected to very slowly develop towards the U.S. level. This makes Europe the current growth market for producers of medical disposable gloves. A key aim of major multinationals will be to identify the next major growth markets. There is potential for market growth in countries such as Russia and Eastern Europe as well as the likes of Australia, South Africa, and South America. However, the European market is undoubtedly a major area of interest and growth at the moment for a variety of reasons, which are explained in this chapter.

The sale of disposable medical gloves increased from 4.16 billion units in 1998 to 4.77 billion units in 2002. Powder-free natural rubber latex gloves and synthetic gloves are the key contributors to the growth of the overall medical gloves market. Revenues have been relatively flat in the past few years due to falling prices. However, prices are projected to flatten out in the future, allowing revenues to increase along with unit sales.

Disposable Medical Gloves Market: Unit Sales and Revenue Forecasts (Europe), 1998-2008

Year	Units (Million)	Revenues (\$ Million)	Revenue Growth Rate (%)
1998	4,160	308.3	
1999	4,330	307.6	(0.6)
2000	4,460	303.8	(1.2)
2001	4,630	301.9	(0.6)
2002	4,770	303.8	0.6
2003	4,910	310.1	2.1
2004	5,100	319.8	3.0
2005	5,250	327.5	2.4
2006	5,420	340.4	3.9
2007	5,580	349.3	2.6
2008	5,740	362.9	3.9

Compound Annual Growth Rate (2002-2008): 3.0%

Note: All figures are rounded; the base year is 2002. Source: Frost & Sullivan

### Market Overview of the Medical Disposable Gloves Industry in Malaysia

The rubber glove industry in Malaysia is now facing tumultuous times with fierce competition from neighboring countries as they too seek to move up the value chain. Price undercutting among local manufacturers and rising production costs are also issues leading to the rough times of the industry. Subsequent to the 1999 industry shake up, the export of rubber gloves has been progressively increasing with a total of 20,170 million pairs sold in 2002, an increase of approximately 10 percent compared to the previous year with 18,350 million pairs. Despite the fact that demand has continued to rise (although at slower rates than in the past), a similar trend was not reflected in terms of revenues in 2002, as export revenues declined slightly by 0.06 percent compared to 2001. In 2002, the increase in natural latex price due to increase in petroleum prices raised production costs and caused instability in the export prices, reducing revenues for manufacturers. Many companies who were not able to sustain themselves during these times folded up leaving only about 70 companies currently from 133 companies in 2000. This period of consolidation has ensured that companies with solid marketing, distribution, and product lines are the ones that have managed to survive these tumultuous times.

## 5. INDUSTRY OVERVIEW AND PROSPECTS (cont'd)

In 2002, the total Malaysian disposable medical gloves market was valued at \$852 million with sales of around 38.35 billion pieces. The total market includes both surgical and examination gloves made from natural rubber latex (NRL) and synthetic materials. The main contribution is from NRL gloves, which represents approximately 90 percent of the local production.

In 2002, the examination gloves market was the main revenue generator in the combined market, contributing to more than half of the total revenues. The surgical gloves segment accounted for the remaining 23.5 percent revenues. During the forecast period, the revenue contribution by the examination gloves is expected to decline slightly. However, the revenue contribution by the surgical gloves is expected to increase as the industry is anticipating brighter prospects in this market.

Total Disposable Medical Gloves Market: Unit Sales and Revenue Forecasts (Malaysia), 1998-2008

Year	Units (Billion Units)	Revenues (\$ Million)	Revenue Growth Rate (%)
1998	33.73	1093.1	
1999	30.70	971.4	(11.3)
2000	27.90	874.7	(10.0)
2001	35.12	828.6	(5.3)
2002	38.35	852.0	2.9
2003	41.70	865.2	1.5
2004	44.00	902.7	4.3
2005	46.75	948.0	5.0
2006	49.55	1000.0	5.5
2007	50.60	1058.0	5.8
2008	53.20	1117.0	5.6

Compound Annual Growth Rate (2002-2008): 4.6%

Note: All figures are rounded; the base year is 2002. Source: Frost & Sullivan

### Substitute Products

There is currently a debate occurring regarding the most desirable material for medical gloves. This debate has many implications for the health of patients and medical staff, on hospital expenditure, and on market growth. This is because the range of materials differs substantially in price and product benefits. The essential choice is between the traditional material, latex, and various non-latex alternatives. Latex is recognized as being preferable in a number of ways, including lower cost, better comfort, and superior protection. The point of concern is the increasing incidence of latex allergies.

However, in addition to the 'latex versus synthetic' issue, there is a further dimension to consider. This is related to the choice between 'powdered' and 'powder-free' medical gloves. Powder is essentially used to aid 'donning' of the glove. The problem is that this can exacerbate any allergic reaction such as skin dermatitis. Further, in the case of surgical gloves, foreign body reactions can occur when the powder comes into contact with a surgical wound, causing post-operative wound infection.

Use of powdered medical latex gloves, which include surgical and examination gloves, has been declining due to concerns with latex allergies. Hospitals and healthcare facilities have been switching to powder-free gloves and/or synthetic gloves in order to prevent latex allergies.

Medical polymer companies continue to work on developing innovative technologies in disposable gloves. Researchers are currently exploring a new latex material produced from a shrub in the Southwest of the United States. Guayule latex, which contains one-third the level of proteins of current latex, has been tested on hundreds of latex-sensitive people with no reactions. Guayule latex has comparable tensile strength and permeability as natural rubber latex. The key difference is that guayule latex has fewer protein particles. Currently, the market has turned to neoprene or polychloroprene rubber for synthetic surgical gloves and nitrile for synthetic examination gloves.

## 5. INDUSTRY OVERVIEW AND PROSPECTS (cont'd)

The production of neoprene surgical gloves is relatively problem-free. Elasticity of the thicker film provides for ease of stripping and lower rejection rate. Neoprene films are also compatible to selected polymers for lamination as well. This could be a thin film of polyurethane, for example, to provide better donning characteristics. Neoprene has more self-adhesion characteristics compared to nitrile. Growth in a variety of new glove applications, including polyisoprene material, will have an impact on the surgical gloves market.

(Source : Independent Market Research Report by Frost & Sullivan dated 3 June 2004)

### 5.3 MARKET COVERAGE AND POSITIONING

Malaysia has an established rubber industry, which stems from its rich supply of natural resources. It has successfully moved up the value chain in the rubber sector from a producer and exporter of raw rubber to become a major producer and exporter of rubber-based products worldwide. One of the prime constituents for these products is natural latex. Malaysia's high quality latex, strong disposition to research and development, and a higher level of education compared to other rubber producer countries has made it the leading supplier of rubber gloves worldwide. The rubber glove industry is one of the major components of finished rubber products in the country using almost 70 percent of local latex production. Malaysia alone produces almost half the world's supply of Natural Rubber Latex (NRL) gloves.

More than 98 percent of disposable medical gloves manufactured in Malaysia are for export. The bulk of these are exports by OEMs or large multinational manufacturers who have production plants in the region. In 2003, exports are expected to reach approximately \$865 million. This is expected to continue to grow as the Malaysian Government is looking into ways of enhancing the exports of its gloves.

Export of medical gloves increased by approximately 10 percent in 2002 compared to the previous year with 18,347 million pairs. However, a similar trend was not reflected in terms of revenues where in 2002, export revenues declined slightly by 0.06 percent compared to 2001. Leading importer countries of Malaysian rubber gloves are the U.S., United Kingdom, Germany, Japan, Italy, France, and the Netherlands. However, many Malaysian manufacturers are also expanding their user base to other countries such as in Latin America and Eastern Europe.

Total Disposable Medical Gloves Market: Major Export Countries (Malaysia), 1998-2008

Surgical Gloves	Percent of Export	Examination Gloves	Percent of Export
U.S.	53.3	U.S.	44.9
Netherlands	8.0	United Kingdom	7.1
United Kingdom	7.3	Germany	5.9
Japan	6.0	Japan	5.1
Germany	4.4	Italy	5.1

Note: All figures are rounded; the base year is 2002. Source: Frost & Sullivan

The competitive structure for glove manufacturers in Malaysia falls into two categories. First are the large players that include Ansell, WRP, Top Glove, YTY, and Supermax. These manufacturers compete through product quality, brand name marketing, and price. They export to customers who are able to pay and rich countries due to their higher quality products. As these companies are big, they are able to invest more into research and development and marketing to compete in the world market for a bigger market share.

Most manufacturers produce examination gloves alone and only a handful like Ansell, WRP (Asia Pacific), Supermax, Top Glove, and TNSB produce both examination and surgical gloves. The competitive factors for the disposable medical gloves market in Malaysia include price, quality, brand name, product portfolio, marketing, and distribution. Figure 4-5 (below) shows the competitive structure of key manufacturers of examination and surgical gloves in Malaysia.

## 5. INDUSTRY OVERVIEW AND PROSPECTS (cont'd)

### Total Disposable Medical Gloves Market: Competitive Structure (Malaysia), 2002

<b>Number of Companies in the Market</b>	Over 75 companies
<b>Types of Competitors</b>	Multinational companies and large local companies Small manufacturers and OEMs
<b>Distribution Structure</b>	Majority of the manufacturers sell to distributors Ansell, WRP and a few other companies sell directly to end-users
<b>Tiers of Competition</b>	1 <sup>st</sup> tier—MNCs and large local companies like Ansell, Top Glove, WRP, etc. 2 <sup>nd</sup> tier— Small/medium companies and local importers like Felda Rubber, etc.
<b>Key End-User Groups</b>	Hospitals Physicians Alternate care facilities
<b>Competitive Factors</b>	Price Product quality, material properties, protein content Distribution network

Source: Frost & Sullivan

In 2002, Top Glove held the largest market share in terms of examination gloves rising from 8.4 percent in 2000 to 12 percent currently. The market share of Top Glove is expected to increase over the forecast period as they expand investment in additional production facilities in Thailand and Shanghai. In addition, the company has a good reputation and a strong distribution network in both local and export markets.

Ansell is estimated to hold the second largest market share of 10 percent. This is followed closely by YTY, TNSB, and Latexx Partners at 6 percent each, respectively.

The surgical gloves market is dominated by Ansell, a multinational company. It is estimated to have held approximately 25 percent of the surgical glove market share in 2002. Ansell is the key supplier of surgical gloves to local hospitals and one of the largest exporters of this product. This is followed by WRP (Asia Pacific), which has a complete range of surgical gloves with a market share of 20 percent. Terang Nusa has successfully launched itself into the surgical glove market and held the third largest market share of 15 percent.

(Source : Independent Market Research Report by Frost & Sullivan dated 3 June 2004)

### 5.4 PROSPECTS OF ADVENTA GROUP

The sale of disposable medical gloves increased from 33.73 billion units in 1998 to 38.35 billion units in 2002. The disposable medical gloves market in Malaysia was estimated at nearly \$852 million in 2002, growing by 2.86 percent from 2001. The compound annual growth rate (CAGR) for the medical disposable gloves market from 2002 to 2008 is estimated at 4.6 percent. A higher CAGR is noted for the surgical gloves segment at 9.9 percent, as compared to the CAGR of 2.7 percent for the examination gloves segment.

(Source : Independent Market Research Report by Frost & Sullivan dated 3 June 2004)

As mentioned in Section 5.2, the outlook of the industry is challenging yet offers growth opportunities to established players.

Although barriers to entry are high for the industry, economies of scale play an equally important role in determining price competitiveness. As well, research and development would ensure that products consistently meet changing market demands.

## 5. INDUSTRY OVERVIEW AND PROSPECTS *(cont'd)*

The Group's competitive advantage lies in its commitment to research and development and understanding of consumer needs and requirements, in addition to its varied product portfolio and international marketing network. Based on the current capabilities of the Group and its future market plans together with positive outlook of the disposable medical gloves market, the Group could position itself well in the global disposable medical gloves market, particularly for surgical gloves.

### 5.5 FUTURE PLANS AND STRATEGIES

In line with the Group's prospects as well as the prospects of the industry, the Group's future plans include the following strategies:

**(i) To expand the core activities of the Group**

The Group is determined to remain in its core business of manufacturing medical devices for hospital and surgery use that is compatible with its current market, sales knowledge, as well as, network. This includes expansion on its existing surgical glove facilities by increasing the number of surgical glove production lines.

Furthermore, the Group intends to focus on Operation Room (OR) gloves and higher end products that are used by professionals for specialised procedures. Since regional preferences and requirements vary, the Group intends to have an active range of specifications to satisfy end user needs.

**(ii) To diversify into other core businesses**

The Group is also in discussion to form a joint venture with an Argentinian based company to manufacture surgical tapes and wound management products. These products are targeted for the Asian, Middle East and Pacific Rim countries. The joint venture will involve technology transfer from the foreign partner to the Group. With the same technology, other series of products can then be manufactured which would enable the Group to venture into other viable businesses and products within the medical industry.

**(iii) To strengthen existing brands through continuous improvement in quality and service in order to ensure customer loyalty**

The pursuit of better technology and product development, coupled with reliable and well spread markets, industry intelligence and surveys as well as close relationship with end user hospitals has enabled continuous improvement in quality and service by the Group to its customers. By keeping in touch with end-users as well as distributors, the Group is able to generate demand for its products, thereby ensuring continuous expansion for the Group's market share.

In addition, efforts to market quality, value and reliability of the Group's brands will continue to be an important agenda for the management. Because of the acceptance of the Group's own brand products, the Group currently intends to increase the ratio of own brand manufacturing to original equipment manufacturer ("OEM") products from 55:45 to 80:20 within the next three (3) years. This will further strengthen the Group's product range.

**(iv) To introduce new patented brands and products which have high profit margins**

In conjunction with the Group's plans to expand as well as diversify its business and products, it is also the intention of the Group to introduce new patented products into the market to secure proprietary advantage over these products.



**5. INDUSTRY OVERVIEW AND PROSPECTS (cont'd)**

As mentioned in Section 4.1(f) of this Prospectus, the Group has filed patents that are pending in USA, the European Economic Community and Patent Cooperation Treaty (“PCT”) countries for its Orthopaedic Glove.

**(v) To expand into new markets in order to gain market share**

With its expertise in large-scale production, stringent quality controls and familiarity with market standards and regulatory compliance, the Group is well placed to expand into new markets such as South Korea, China, Sri Lanka and Indonesia.

**(vi) To establish sales offices and manufacturing presence in key regional areas**

In addition, the Group intends to move some parts of its manufacturing capacity nearer to its existing markets, which will enable it to enjoy greater distribution advantages. This will involve the establishment of sales and manufacturing presence in key regional areas such as South America, Europe and China.

**(vii) To continue in its expansion of R&D facilities by recruiting more experienced scientists and increasing R&D investment**

The management views that the growth in the medical consumables market is driven by the following factors:

- Improving healthcare facilities in comparison to the percentage of population enjoying healthcare;
- Increasing number of healthcare services available to increasingly larger percentage of the world population; and
- Growth in world population which translates into higher demand for medical healthcare services and its related products.

Therefore, there is a need to continuously invest in R&D technology in order to improve production as well as increase the quality of medical products. In line with this, the Group has allocated RM500,000 from the IPO proceeds to enhance and improve its existing R&D infrastructure over and above the Group’s existing R&D expenditure.

**(viii) To achieve cost reduction through efficiency and innovation of processes**

The Group also intends to increase production efficiency as well as reduce production costs by venturing into the generation and supply of energy and electricity using biomass technology. This involves the setting-up of a biomass power plant which uses agricultural wastes to produce heat and electricity. In the initial stages, it is the intention of the Company to reduce TNSB’s fuel costs which account for more than 10% of production costs and to provide electricity and heat required in the manufacturing process. It is also the intention of the Group to further develop the capacity of this plant in order to be able to sell any excess electricity supply.

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