

# The Medical Device and Instrumentation Industry

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Biotechnology has been deemed by the Federal Government to be the key driver of growth for Malaysia as the country heads toward achieving its goal to become a developed nation. The biotechnology industry covers a wide range of sectors ranging from healthcare to non-healthcare. One area of the biotechnology industry, which is the medical device and instrumentation industry has been given much emphasis lately as one of the new sources of growth for Penang. Thus, this article aims to explore the current trends of this industry, why the industry is regarded as a new source of growth and the issues and challenges in store for Penang in this industry.

### What is a medical device?

By definition, a medical device is an instrument, appliance, implant, machine, software, material, calibrator, apparatus, in vitro reagent, or other similar or related article which is used to cope with human diseases, care for human injuries, meet human anatomical needs, maintain human physiological functions, support or sustain human life, control human conception, disinfect human medical device and examine specimens taken from human bodies.<sup>1</sup> Thus medical device actually range from surgical equipment such as catheters<sup>2</sup>, cannulae<sup>3</sup> and sutures<sup>4</sup> to medical equipments such as ultrasound, Magnetic Resonance Imaging (MRI), Computed Tomography (CT) scans and x-ray machines; infusion pumps, LASIK surgical machines, medical ventilators, heart-lung machines and dialysis machines.

### Trends in the export and import of medical devices.

As can be seen in Table 1, global sales of medical device alone have been on the rise every year. Amidst the volatile world economy in recent years, global medical sales exhibited strong and consistent growth. Sales grew by 29 percent from 2002 at USD 140 billion to USD 180 billion in 2004. It is projected that with the advancement of medical technology, booming health tourism market and the subsequent need for more medical device, equipments and facilities for hospitals and medical centres, there will be an increasing need and demand for medical device and instrumentation.

Table 1: Global Medical Device Sales

Year	Sales
2002	USD 140 billion
2003	USD 165 billion
2004	USD 180 billion

Source: Presentation by Dato' Kelvin Kiew, April 2005

Trade statistics has shown quite a mixed trend in terms of the export and import of medical devices. Penang contributes more than 60 percent of total medical instruments exported by Malaysia in both 2004 and 2005. Penang is a net exporter of medical devices whereby export of medical devices exceeded the import of the devices annually. Based on export data, Penang's main exports of medical device are catheters, cannulae and medical

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<sup>1</sup> Praxiom Research Group Limited, (<http://www.praxiom.com/iso-13485-definitions.htm>)

<sup>2</sup> A catheter is a tube that can be inserted into a body cavity duct or vessel. Catheters thereby allow drainage or injection of fluids or access by surgical instruments.

<sup>3</sup> A cannula (pl. cannulae) is a flexible tube which when inserted into the body is used either to withdraw fluid or insert medication. Cannulae normally come with a trocar (a sharp pointed needle) attached which allows puncture of the body to get into the intended space. Intravenous cannulae are the most common in hospital use.

<sup>4</sup> Sutures are the stitches doctors, and especially surgeons, use to hold skin, internal organs, blood vessels and all other tissues of the human body together, after they have been severed by injury or surgery.

**Table 2: Penang - Export of Selected Medical Device, 2004 - 2005**

Description	2004 (RM)	2005 <sup>a</sup> (RM)
Catheters, cannulae and the like used in medical, surgical, dental or veterinary sciences	754,942,089	487,072,276
Other instruments and appliances for other than veterinary sciences	189,229,402	259,635,046
Electro-cardiographs	12,939,026	16,026,015
Tubular metal needles and needles for sutures used in medical, surgical, dental or veterinary sciences	42,485,030	8,829,373
Ultrasonic scanning apparatus	338,741	8,714,481
Other apparatus based on the use of X-rays, alpha, beta or gamma radiations, including parts and accessories	5,962,481	4,243,400
Syringes with or without needles used in medical, surgical, dental or veterinary sciences	1,256,346	3,801,441
Sterile surgical catgut <sup>5</sup> , suture mat., tissue adhesives, laminaria & laminaria tents; absorbable surgical / dental haemostatic	5,178,781	3,125,353
Hearing aids, excluding parts and accessories	3,321,615	1,557,066
Other medical, surgical, dental or veterinary furniture	1,448,833	987,301
X-ray tubes	591,299	698,014
Other orthopaedic appliances including appliances which are worn or carried or implanted in the body to compensate for a defect or disability	46,401,903	476,222
Magnetic resonance imaging apparatus	29,899	316,722
Other electro-medical apparatus	2,583,851	214,393
Ultra-violet or infra-red ray apparatus	178,961	108,762
Alpha, beta, or gamma radiations apparatus for other uses	107,517	80,141
Self monitoring apparatus used in diagnosing diabetes	n.a	65,176
Medical, surgical or laboratory sterilizers	122,164	27,811
Alpha, beta, or gamma radiations apparatus for medical, surgical, dental or veterinary uses.	1,052,204	27,768

Source: Department of Statistics, Malaysia

<sup>a</sup> – 2005 figures are preliminary figures and are subject to changes and revision

<sup>5</sup> Catgut is the name applied to cord of great toughness and tenacity prepared from the intestines of sheep/goat, or occasionally from those of the hog, horse, mule, and donkey. Sutures made from catgut are readily absorbed by the human body and are thus extensively used for internal stitches.

instruments. Penang is one of the top producers and exporters of catheters in Malaysia and the world. Having said that, it is worth noting that the state had suffered a drop in the export of catheters last year. Based on Department of Statistic's preliminary figures for 2005, Penang exported only RM487.1 million worth of catheters, cannulae and other related products compared to RM754.9 million of the same products in 2004. This drop recorded was due to a fall in the exports of these products to Japan. In 2004, there was a significant amount of sterile surgical catguts and suture mats exported to Spain but in 2005, there was none recorded. But nevertheless, the fall in these exports have been cushioned by a significant rise in the export of medical instruments, syringes, electro-cardiographs and ultrasonic scanning apparatuses in 2005. The exports of various medical instruments and appliances to Germany had soared by more than 50 percent in 2005 while the exports of electro-cardiographs to Denmark, USA and Japan had also increased that year.

The great potential in this industry has proven that biotechnology is more than just a buzzword. Penang is currently home to 3 major global medical device manufacturers, namely B. Braun Medical Industries, Ambu and Cardinal Health. B. Braun, which has been established in Penang since 1972, has recently announced its plans to invest at least RM100 million a year over the next three to four years in its facilities here in Penang.<sup>6</sup> This indeed is a timely boost for Penang.

For many years, Penang's economy has mainly revolved around the E&E manufacturing industry. The recent emphasis on the medical device industry is a new source of growth which complements the existing E&E based knowledge, capital and workforce of the state. Needless to say, the successful development of the medical device industry in Penang will also bring in economic contributions in terms of the increased economic wealth, new job creation within the industry and spin offs from this industry. Spin-off industries which are most likely to benefit from the medical device industries include the packaging industries, plastics manufacturers, metal manufacturers, logistic firms, and various other service providers. Braun's recent bestowal of the International Procurement Centre (IPC) Status on 8 June 2005 by MIDA will enable the medical device giant to undertake procurement and sale of raw materials, components and finished products to its group of related companies and to unrelated companies in Malaysia and abroad. This is expected to generate positive spill-over effects for port activity, the logistics and other supporting industries here.<sup>7</sup>

The development of a strong medical device industry in Penang will also benefit both the public and private hospitals in terms of the lower costs of acquiring medical and surgical materials, instruments and equipments. This in turn will assist the public sector to upgrade its services with modern diagnostics equipments to provide better quality services. At the same time, the lower cost margins enjoyed by private hospitals will make private health care more affordable and will also benefit the medical tourism industry.

## Some Success Stories

### **Profile: Ireland<sup>8</sup>**

The Republic of Ireland has been a hit with investors in the medical device industry for years. It has been recognized as a world-class global centre which develops, manufactures and markets a diverse range of products from disposable plastic and wound care products to precision metal implants including pacemakers to microelectronic device, orthopaedic implants, diagnostics, contact lenses and stents. Ireland houses 15 of the world's leading 25 medical technological companies and is home to medical device manufacturing giants such as Johnson & Johnson, Medtronic, Abbott Laboratories, Stryker and Becton Dickinson.



***The ability to use knowledge quickly, flexibly and creatively is a distinguishing feature of Ireland...***

<sup>6</sup> Braun pledges RM100m investment a year in Penang over next 4 years, The Sun, January 19, 2006

<sup>7</sup> B. Braun Asia Pacific (<http://www.bbraunap.com>)

<sup>8</sup> This section incorporates text from IDA Ireland's website (<http://www.idaireland.com>). IDA Ireland is the primary government agency with responsibility for the promotion of foreign direct investment into Ireland and the development of the existing base of overseas companies.

In an article in the Medical Device Daily in April 2005, it has been highlighted that medical products accounts for about one-third of Ireland's total manufacturing exports, which translates to about \$34 billion in exported products annually. In terms of the medical technologies, the sector caters to 22,000 jobs within 110 companies with sales in excess of €4 billion annually and the annual growth is reported to be approaching 10 percent.

Promoting Ireland as a knowledge economy has become the key message to the world from IDA Ireland. The ability to use knowledge quickly, flexibly and creatively is a distinguishing feature of Ireland and IDA Ireland is reinforcing this image through a new marketing campaign under the banner "*Ireland, knowledge is in our nature*".

The companies there not only manufacture but are also very active in research and development activities. Ireland's strengths have particularly been very closely linked to their well-educated and highly skilled work force and their attractive tax environment for companies manufacturing high value products. Beside that, Ireland also boasts the ownership of world-class R&D facilities and partnerships and access to highly trained medical technology research and development experts and third level institutions that allow companies to their R&D activities.

The addition of strategic functions such as R&D, IP Management, Sales & Marketing and Supply Chain Management by existing multinational investors in Ireland is also evidence of the attractiveness of Ireland for a new breed of investments based on knowledge. Ireland's success in the coming years will be fundamentally dependent on its ability to achieve an environment where research and knowledge, high level skills and expertise, high quality infrastructure and business services, are combined in that flexible and creative way which is almost uniquely Irish and Ireland already has many of those essential features.

#### **Profile: Puerto Rico<sup>9</sup>**

*"The advantages of going offshore. The security of being home."* The tagline explains quite a number of things about the advantage this Caribbean country has. Puerto Rico is another country which is very much involved in the production of high-tech medical device. The Puerto Rico Industrial Development Company (PRIDCO) reports that 50 percent of pacemakers and defibrillators purchased in the US and 40 percent of all other medical device are made in Puerto Rico. Similar to Ireland, Puerto Rico houses the production facilities of the big names in medical device world such as Johnson & Johnson, Baxter, Medtronic, B. Braun, Unilever and Roche. This country, which is a self-governing commonwealth associated with the US, have been involved in manufacturing in the life sciences for nearly 40 years and currently has over 65 plants with more than 17,000 employees in total. In 2003, it has shipped over \$2 billion of medical / scientific device, placing it 8th in the world in the total shipments.

According to PRIDCO, a recent study has shown that productivity rates per dollar in Puerto Rico are significantly higher than the U.S. mainland average. Puerto Rico has a loyal, productive workforce, trailing only Japan in the fewest number of days lost to labour disputes per manufacturing employee, and wage rates are typically 20 percent to 30 percent lower than those on the mainland for the same position. A variety of wage and training grants are available as are both U.S. federal and local training programs. Puerto Rico also offers medical/scientific /scientific device manufacturers a full range of suppliers and services, including the availability of contract manufacturers.

Puerto Rico is the lowest cost gateway to the most lucrative life sciences market in the world. Investors in Puerto Rico can enjoy the benefits and protections of operating within a U.S. jurisdiction, with the added tax benefits of operating under a foreign tax structure. The Island's direct duty-free and quota-free access to US markets, free currency exchange, strong supply of highly skilled labour, worldwide transportation and

<sup>9</sup>This section incorporates text from The Puerto Rico Industrial Development Company (PRIDCO)'s website ([http://www.pridco.com/english/1.0\\_home.php](http://www.pridco.com/english/1.0_home.php)). PRIDCO is the agency of the Commonwealth of Puerto Rico tasked with assisting companies to set up operations on the Island.



**...50 percent of pacemakers and defibrillators purchased in the US and 40 percent of all other medical device are made in Puerto Rico.**

communications network, and high capacity infrastructure provide the ideal environment for industries to flourish. Puerto Rico's value proposition offers an unparalleled combination of both financial and operational advantages that include no U.S. federal income tax, a local corporate income tax rate of 2 percent – 7 percent, U.S. dollar and banking system, U.S. legal system including intellectual property protection, U.S. customs area and most importantly - easy access to U.S. mainland markets. It is no wonder that 87 percent of Puerto Rico's total exports are destined for the USA.

### **Penang - a success story in the medical device industry. Is it merely a dream or are we making a bold vision?**

So the next question would be whether Penang has the capabilities to be a medical device manufacturing hub. Reflecting upon the strengths and successes of Ireland and Puerto Rico, Penang stands a strong chance. Penang possesses similar strengths, if not better in some areas of core competency than these countries. In the last three decades, the technological capabilities of our home-grown backyard industries have garnered international standing. Apart from its strong MNC base, Penang has a significant amount of local industries involved in world-class automation systems, precision engineering, tooling and machine fabricating activities which supports and complements its E&E sector. These companies possess ample experience, capability and to a certain extent, capacity to venture into the manufacture of medical equipment and instruments in addition to its current activities.

Thus, with the technological capabilities that these companies boast, not only can Penang produce and encourage the export of medical device; it also has the ability to form a strong supply chain network for the new and existing medical device companies here in Penang. Apart from the capable support services from the manufacturing industries, Penang's strong banking and financial institutions, logistic and utility providers and other manufacturing related services are an added advantage.

At present there are no industry-specific incentives for investors in biotechnology. However, biotech investors may qualify for the wide range of incentives offered for the manufacturing industry. Penang also has the added advantage of possessing relatively stronger intellectual property (IP) protection laws than many other emerging market countries. The IP protection laws here in Malaysia covers patents, trademarks, industrial designs, copyrights, geographical indications and layout designs for integrated circuits.<sup>10</sup>

Another strong factor for Penang is its well-developed infrastructure. Penang currently has more than 10 fully developed industrial parks within the island and the mainland. New investors in the medical device industry can be placed with the cluster of other biotechnology players in the Penang's 440-acre Biotech Park at Bukit Minyak. Apart from that, Penang also offers clean-room<sup>11</sup> facilities and affordable utilities and telecommunication services to investors. Its strategic location and easy accessibility via the available network of roads and highways, airport and port facilities also allows efficiency in terms of cost and delivery of the products around the region. The stable physical, social-economic and political environment together with a pro—business Government also complements the business conduciveness here in Penang.

### **Issues and challenges ahead**

Being an industry that involves state of the art technology, initiating a company to manufacture medical devices is much easier said than done. Start up investment is particularly challenging for this industry and sustainability is another issue altogether. Apart from start-up capital and technology acquirement, there is also need to acquire certification to standards. Certification to standards is of utmost importance in the life sciences industry. Whether a company is only producing parts of a medical device or producing a complete medical device, it needs to be at least ISO 13485:2003 certified to



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<sup>10</sup> The Malaysian Industrial Development Agency (MIDA)'s brochure on *Malaysia's Medical Device Industry*

<sup>11</sup> A cleanroom is a manufacturing environment that has a low level of environmental pollutants such as dust, airborne microbes, aerosol particles and chemical vapors. More accurately, a cleanroom has a controlled level of contamination that is specified by the number of particles per meter-cubed and by maximum particle size.



ensure that the medical device manufactured complies to global regulatory requirements. For example, if a company were to market its medical device to Europe, it is required to have the CE marking, which is the regulatory requirement for high risk devices. For that, the manufacturer has to appoint a notified body to certify their system and product. Many companies are now increasingly aware of the need for a certified quality management system to meet regulatory requirements in order to market medical devices. At the present moment, Malaysia does not have the regulatory requirements in place but a voluntary establishment registration scheme for all manufacturers, distributors and importers has been established. At present there are local companies which manufacture medical devices for local markets without proper certification. For these companies, the setback for them would be missing out on marketing their products globally. But there is a huge possibility that come 2007, Malaysia will impose such regulation for medical devices manufactured here. Most companies are still not certified, thus much work has to be done to catch up before the regulations are imposed.

Despite the growth in sales, the medical device industry is having a hard time keeping operational, labour and overhead costs low to sustain profitability. At the moment, Penang's medical industry is still very much labour intensive, hence, it is fast losing out to lower cost countries and this may eventually lead companies to transfer their production lines to countries with more cost-competitive advantage. Although Penang may have a cost advantage over countries like Ireland<sup>12</sup> and the US, both of these developed countries are perceived by many investors to have a better advantage in terms having skilled and experienced human resources and more advanced technology.

It is not an easy task to lure the big players in the medical field to set up base in Penang. As both Penang and Malaysia does not have a big market base for local consumption, Penang is in some ways disadvantaged compared to countries with big markets like China, India, Vietnam, Thailand and the Philippines. In terms of investment attraction, most of incentives offered are general incentives and pioneer statuses for manufacturing industries in general. As previously mentioned, there is currently no industry specific incentive to support this industry and to attract more investors into this industry.

Penang does not lack good workers, but while that is true, our weakness lies in the mismatch between what is taught and learnt at the tertiary level and what is really needed in the industry. Penang has a lot of outstanding talents and dedicated people who are creative and innovative but the industry finds that there is limited talent pool and good knowledge workers are increasingly hard to come by. This problem is further accentuated by the incompatibility of fresh graduates in which many are not able to apply knowledge learnt into practical work. This is where we are unable to compete with countries like Ireland and US.

In embarking into biotechnology and other value added high technology industries, human resource complements technology. Penang's strength lies in its most vital natural resource that it produces - brains. Manpower and skilled workers has always been a vital part of sustaining the biotech industry. As how Ireland is banking on knowledge to promote investment in and to its country, so must Penang start to produce a highly educated workforce that meets the needs of the medical device industry and other manufacturing industries alike. If Penang can sustain its low costs and raise a talent pool of high quality workers, Penang's attractiveness will be hard to resist.

Most manufacturers in the medical device and instrumentation industry in Penang are MNCs. There are not many local companies who are purely involved in the manufacturing of medical devices. While we more than welcome foreign direct investments, the state needs to nurture and develop its local companies to reduce the level of dependency upon foreign investments. We also have to rid ourselves of the mindset that locally produced goods and technology is below par of that of foreign made or imported goods. Many of our Penang-made medical devices are export quality and used world-wide. Local companies do have the capabilities and the box article at the end of this article highlights the experience of a local company which has succeeded in proving that.

<sup>12</sup> For details of cost comparison between Penang and Ireland, please refer to the May 2005 and November 2005 issue of the Penang Economic Monthly.

Apart from dependency on foreign investments, many of the local companies who are involved in supporting the medical device industry are still very much dependent upon overseas suppliers for raw and base materials. Most of them are also said to be far from being real supply chain solution providers as the supporting industry is still currently only providing basic conversion processes such as printing, packaging and offering basic logistic services. In the rapidly fast changing world today, supply chain providers have to equip themselves to add value to their services by for example, providing warehousing, systems management, inventory control, multi-modal transportation, distribution and supply chain management services to their customers.

### **What has been done?**

The state government is aware of the importance and the potential benefits of this industry and has embarked on promoting Penang as a medical device hub through investPenang<sup>13</sup>. Over the last year, several local large corporations had attended various medical device trade shows in America and Germany. These missions have brought positive outcome. Some firms have been able to strike joint-venture deals with foreign medical device manufacturers. The State had also had a chance to link up and make visits to several medical device companies in Germany. Out of 6 of the companies visited, 4 had expressed interest to visit Penang. One of the companies has already visited Penang and was duly impressed with what they saw. The company, which has a distribution office in Malaysia is currently looking into expanding their scope to manufacturing here in Penang.



A Medical Device Advisory Panel, through the initiative of investPenang, will be set up this year to further facilitate growth and expansion of this industry. This panel will be represented by a group of notable key players in the industry and academicians in Penang to advise both the policy makers and the business community on matters pertaining to the medical device industry. Realising the importance of certification systems within this industry, talks have also been organised to disseminate and educate the community on the regulatory requirements that are needed for compliance.

For 2006, efforts to promote Penang's medical device industry will continue with the relevant government agencies assisting local investors in linking up with foreign investors and exploring new joint-venture possibilities and encouraging further foreign direct investments.

### **Conclusion: What needs to be done?**

A number of local companies are now in the midst of being certified for ISO 13485:2003. With regulations on medical devices expected to be in place by 2007, more certification procedures are expected to take place within the industry over the next two years. However, one major constraint is the financial element. There will be significant cost incurred to develop and maintain the quality management system. Thus, to enable smaller medical device companies to comply with the regulations and at the same time encourage them to go global, grants, financial aid or incentives should be developed in this field. These schemes will relieve the financial burden associated with the setting up of quality management systems and the cost of acquiring certification. With these incentives or financial assistance in place, there will be more companies who will be inclined to create or improve on their quality management system. No doubt there will be much cost involved for the Government, but the funding and support poured into formative years of the companies will bring in good returns in the future.

***With incentives or financial assistance in place, there will be more companies who will be inclined to create or improve on their quality management system.***

To ensure success, the medical devices industry will also require the supporting industries to provide more value added services to support the operations of the medical device manufacturers. For example, logistics firms should as previously mentioned, offer other value-added services such as distribution, e-commerce solutions, customs brokerage and other services related to the supply chain beside the usual basic transportation services. More synergistic and collaborative effort should be formed between members of the

<sup>13</sup> investPenang is a State Government-established entity with the primary focus of sustaining, rejuvenating and further promoting the business milieu in the State of Penang through continued investments and the high-technological development of its industrial sector.

medical device industry with other supporting organizations such as education providers and the medical practitioners, as the medical device manufacturers will then be able to be more attuned to what is needed by consumer. Education and training institutions need to keep up with the industry to ensure that the curriculum and technical and soft skills imparted by the institutions will match the needs of the industry. Manufacturers can also work with institutions like the Penang Skills Development Centre (PSDC) to train workers to be more equipped with the standards and skills needed by the industry.

Having said all that, local companies cannot always expect the Government to provide for every need or want. As necessity is always the mother of invention, small companies that are looking to embark on new ventures will have to also learn to be proactive in finding their own resources rather than to always expect the Government to provide for them.

In a nutshell, the state needs to have an explicit plan and wisely look into the rudiments of how they can develop and nurture this industry instead of just following the crowd in jumping on every bandwagon that comes along our way. The players within the industry also have to realise that there is more positive outcome in working together than to compete against each other. Both the local companies and the MNCs should look forward to working alongside each other a synergistic relationship that will enable all parties to benefit and will ensure the growth and well being of medical device and

*Please note that some information in this article has been derived from brochures published by MIDA, investPenang and a presentation made by Dato' Kelvin Kiew of Mini-Circuits Technologies (Malaysia) Sdn Bhd. All definitions at the footnotes are derived from Wikipedia. SERI would like to thank the following people and organizations for their insights and invaluable contributions to this article:*

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instrumentation industry in Penang. § **Tan Yin Hooi**

### **A Local Success Story: Vigilenz Medical Device Sdn. Bhd.**

Vigilenz Medical Device Sdn. Bhd. was set up in 2002 and the company began their operations in year 2003. The company, which traces its humble beginnings in Bukit Minyak Industrial Park, manufactures surgical suture and is the only 100 % local company to do so.

Vigilenz attained its ISO 13485 : 2003 (by TUV Product Services, Germany) accreditation in February 2004 and subsequently in September, 2004, it was certified for CE Marking for the suture range produced its facility. Vigilenz is currently undergoing audit for the Class III medical device for the range of Synthetic Absorbable Suture. This makes Vigilenz the first local company in Malaysia and in the ASEAN region to do so.

The company of over 40 employees, operates under a class 100K clean room and has been constantly working towards the environment based accreditation.

Vigilenz relies heavily on home grown technology, which can rival those from overseas. Its first state-of-the-art Ethylene Oxide sterilization plant was completely designed and manufactured locally, making it a first in Malaysia. This also created a spin-off industry among the local ranks. Vigilenz is also the first Malaysian company to cater to the high-end medical market.

Vigilenz has from the onset concentrated on the export market and today has made strides into Indonesia, Thailand, Brunei, Africa, New Zealand and the Pacific Rim. It is poised to enter the EU countries this year on account of attaining the CE Mark.

Its product range comprising 1,500 items — which includes the “Vigiroll” cassette pack, “Ecosorb” and “Ultisorb” sutures — caters to the medical and surgical sectors, along with the dental and veterinary areas. Locally, the company’s products are used in most major hospitals with good reviews. This amply describes the ‘MALAYSIA BOLEH’ spirit.

From the date of its operation, Vigilenz’s sales have surged by over 350% and is expected to further grow by triple digits for 2006. Shipment volumes for 2005 stand at 1.5 million units and this figure is expected to rise to 1.9 million units in 2006. The company also plans to launch other surgical and medical device within the year and has ear-marked an investment plan of approximately RM 3.5 million for the next 18 months. The new investment is also to accommodate an American multinational company which had appointed Vigilenz as its original equipment manufacturer for sutures.

*The contents of this box article is obtained courtesy of Vigilenz Medical Device Sdn. Bhd. and adapted from New Straits Times, November 14, 2005*



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# INTERNATIONAL HEADLINES

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## **US Raises Interest Rates As Greenspan Retires**

*Feb 1, 2006, Reuters*

The Federal Reserve has raised US interest rates for a 14th straight time, cautioning that borrowing costs may still need to move up while suggesting a 19-month rate rise campaign was near an end. Meeting on the final day of Dr Alan Greenspan's 18 year tenure as chairman, the US central bank's Federal Open Market Committee voted unanimously to lift the benchmark federal funds rate a quarter-percentage point to 4.5 percent, the highest level since April 2001. Meanwhile, the US Senate has confirmed White House adviser Ben Bernanke as chairman of the Federal Reserve.

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## **Indian Pharmaceuticals - Good Chemistry**

*Feb 2, 2006, The Economist*

India's strength in pharmaceutical industry, as in information technology (IT), is its talent pool. Mahesh Sawant, of Frost & Sullivan, a consultancy, says that the country has 122,000 chemists and chemical engineers graduating each year. India's chemists are, by global standards, cheap. Goldman Sachs, an investment bank, estimates that India's overall research-and-development costs are one-eighth of western levels. Many analysts believe that there is big opportunity for India as a place for the outsourcing of drug discovery. Indian firms are skilled at "re-engineering" others' formulations and have done well in this market. Frost & Sullivan reckons that in 2004 this market was worth \$1.2 billion, with a further \$1.6 billion spent on clinical development (testing on patients and so on). India's attractions include its IT prowess and, since it passed a new patent law last year, the prospect of better protection of intellectual property.

## **EU: Euro Zone Growth Slows to 0.3 Percent**

*Feb 14, 2006, AP*

Economic growth in the 12 countries that use the euro slowed to 0.3 percent in the fourth quarter 2005 as opposed to 0.4 percent in third quarter, according to Eurostat. The rise from the fourth quarter of 2004 was 1.7 percent. Growth across the entire 25-nation EU in the fourth quarter was 0.4 percent, compared to 0.6 percent in the third quarter. The highest fourth quarter growth was recorded in Lithuania, with 2.1 percent and Finland with 1 percent growth. The slowest rates were found in Germany, which showed no growth at all in fourth quarter, dropping from 0.6 percent in the third quarter. France had 0.2 percent, while Britain showed a 0.6 percent rate. The European Commission forecast an economic growth rate of 2 percent in 2005 for all EU members, compared to 1.6 percent for the 12 EU nations that share the euro. For 2006, it predicted growth of 2.3 percent and 2.1 percent, respectively.

## **New Fed chief Bernanke issues warning on inflation**

*Feb 15, 2006, Reuters*

New Federal Reserve chief, Ben Bernanke said the U.S. economy was running so near capacity that higher interest rates may be needed to quell the risk of inflation. Markets expect the Bernanke-led Fed to lift credit costs at its next meeting on March 27-28, with a good chance they will reach 5 percent by mid-year. Bernanke also said high energy costs could weigh on growth and said a possible slowdown in the housing market bore close watching. Still, he expressed confidence that demand from elsewhere would "pick up the slack" as housing cools, playing down fears a slowdown could derail the economy. Core inflation was seen at 2 percent this year, just a touch ahead of 2005, and 1.75 percent to 2 percent in 2007.

## **Stronger Japan Economy May Benefit Rest of Asia**

*Feb 20, 2006, WSJ Asia*

Japan's economy grew strongly by 5.5 percent annualised rate in the last quarter of 2005. Prior to 2005, much of Japan's growth depended on outside demand, like machinery exports. However, in 2005, corporations began to raise wages, which encourage workers to consume. In fourth quarter 2005, private sector consumption; which contributes to 0.4 percentage points to GDP growth; rose by 0.8 percent. If such trend continues, the Association of Southeast Asian Nation would benefit the most because 10 percent of their exports go to Japan. In addition, the rest of Asia would also benefit as they received 17 percent of foreign direct investment between 1987 and 2004.

## **EU Likely to Slap Duties on China, Vietnam Shoes**

*Feb 20, 2006, WSJ Asia*

The European Commission will recommend imposing antidumping penalties on leather shoes made in China and Vietnam saying the countries cheaply. The year to March 2005 saw imports of leather shoes into Europe from Vietnam alone rise by 700%. Tariffs will be phased out in the course of the year, starting at 4 percent in April and topping at 20 percent. The EU's been investigating following complaints by European producers. Italy wants duties of 50% imposed. China has warned it might complain to the World Trade Organisation if anti-dumping measures are slapped on its shoe exports.



## **Beijing Expects GDP Growth to Top 9 Percent**

*Feb 22, 2006, WSJ Asia*

China's State Information Center predicted that the economy will expand 9.2 or 9.3 percent in 2006 compared to 9.9 percent in 2005. Japan's economy grew strongly by 5.5 percent annualised rate in the last quarter of 2005. On the Chinese currency, economic pressure for appreciation of the yuan may decrease slightly from 2005. One factor for the decline in pressure is the smaller increase of China's trade surplus – the surplus is expected to increase of US\$20 billion this year compared to the surge of US\$70 billion last year.

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