Malaysia as a destination for foreign biotechnology investments

by Zurina Che Dir

Vice President, Business Intelligence
Strategic Planning Division
Malaysian Biotechnology Corporation Sdn Bhd

Malaysia has come a long way in the last few decades since its independence in 1957 to achieve the present status of an industrialising economy. The rapid industrialisation of the country is attributed in part to the inflow of foreign direct investment especially in the manufacturing sector. Many foreign companies have taken advantage of the country’s capabilities by outsourcing their manufacturing activities to Malaysian companies or setting up their own operations in Malaysia. Many companies have since expanded and diversified their operations reflecting their continued confidence in the conducive environment of the country.

Growing further, Malaysia has successfully created a niche for itself as a reputable biotechnology hub of Asia. The vibrant local biotechnology industry, along with the established BioNexus ecosystem, abundant natural resources and conducive environment for biotechnology business, serves as strategic catalyst that encourages future investments into Malaysia, while at the same time creates new opportunities throughout the regional and global biotechnology value chain. Malaysia presents a uniquely ideal environment for prospective biotechnology business to strategically grow as a leading and innovative global company. This is proven by the list of foreign biotechnology companies that have expanded their business to Malaysia.

BiotechCorp® takes pride of its BioNexus Network which has led the building of the biotechnology business by creating potential for adding value to numerous existing sectors of the economy in Malaysia. As of April 2011, a total of 188 biotechnology companies have been granted BioNexus Status® and 29% or 55 BioNexus Status companies are foreign-owned companies originating from countries such as Singapore, India, USA, UK, Germany and Taiwan. Among the notable foreign-owned companies that have set-up in Malaysia are: 1. Stempeutics Research Malaysia, a company under the Manipal Education and Medical Group that focuses on the development of stem cell therapies which have been recently given approval by the National Pharmaceutical Control Bureau (NPCB) to conduct clinical trials on stem cell based Investigational New Drugs (IND) in Malaysia; 2. Pure Circle, a company that is involved in the R&D and production of Stevia-based sweeteners and listed on the London Stock Exchange's Alternative Investment Market since 2007; and 3. All Cosmos, a biofertilizer producer that is expanding its manufacturing presence in Indonesia and Vietnam.
Several notable multinational companies have announced their investment plans in Malaysia. Most notable of these is Biocon Ltd, India’s first billion dollar biotechnology company, which will invest RM 1 billion or approximately US$ 0.33 billion in a high-end biosimilar and biopharmaceutical manufacturing and R&D facility in Bio-XCell. The presence of Biocon will stimulate growth for the sector and provide commercial opportunities for Malaysian biotechnology’s small and medium enterprises. This will also promote more vigorous domestic direct investment as well other Biocon-affiliated global giants. The facility is targeted to be operational by 2014.

Other key entrants into Malaysia via the Bio-XCell ecosystem are Glycos Biotechnologies from USA (GlycosBio) and METabolic Explorer (METEX) from France. GlycosBio will build an industrial biochemical plant and a biotechnology research and development facility, set to be operational in 2012, and focusing its initial research and development efforts on creating isoprene to support Malaysia’s rubber industry. METEX, similarly, have selected Malaysia as the location for its first South East Asia 1, 3 propanediol (PDO) manufacturing plant. The total investments for both companies are RM 146 million or approximately US$ 48.3 million. The presence of both GlycosBio and METEX will undoubtedly play a significant role in strengthening Malaysia’s value chain for industrial bioprocess and biomanufacturing and enhance the country’s significance as a regional biotechnology hub for industrial and healthcare biotechnology. These investments will also open opportunities for Malaysian small and medium biotechnology enterprises to participate in the companies supply chain, promoting specialised services and products for the industry.

Other MNCs that have invested in Malaysia include AstellasPharma Inc., which has signed a joint research agreement with Nimura Genetic Solutions Co. Ltd. and Sarawak Biodiversity Centre (SBC) to develop new products/new chemical entities through natural product discovery, and Novartis AG, which will jointly develop and commercialise novel bioactive compounds from Sarawak in collaboration with SBC. Through these investments, the development of expertise in drug discovery and development based on the local biodiversity and natural resources can be significantly accelerated.

Where it begins – the National Biotechnology Policy

The Malaysian Government has identified biotechnology as one of the core technologies to accelerate the transformation of Malaysia into a knowledge-based economy and an industrialised nation by year 2020. For this purpose, the National Biotechnology Policy (NBP) was launched in 2005 to use biotechnology as an enabling tool to further develop three sectors namely agricultural, healthcare and industrial. The NBP is to be implemented over three phases; Phase 1- Capacity Building (2006-2010) – is the beginning phase of nurturing and industry growth; Phase 2- Science to Business (2011-2015) – where the focus is in commercialising science to business; and Phase 3- Global Business (2016-2020), where the aim is to create global branding for Malaysia’s biotechnology industry. Malaysia has effectively seen an upsurge in the profitability and development of the biotechnology sector over the intervening years. By the year 2020, the sector is envisaged to employ up to 160,000 people, while contributing 5% to the nation’s GDP.

The overall achievements of Phase 1 of NBP showed a positive development despite having challenges including the global economy crisis. Considering the global financial crisis in 2009, which affected all sectors in Malaysia, the revenue achieved by biotechnology sector is considerably high. Since, the NBP vision did not provide for this unforeseen challenge, it can be concluded that the progress of biotechnology industry in terms of revenue is on track. The industry is already witnessing a recovery and is likely to achieve envisioned growth during the period of 2011-2015. The achievements of NBP Phase 1 are as follows:-

### Table 1: NBP Phase 1 Achievements

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>New Investment</td>
<td>RM 6 billion / US$ 1.98 billion*</td>
<td>RM 5.4 billion / US$ 1.79 billion*</td>
</tr>
<tr>
<td>Employment</td>
<td>40,000</td>
<td>54,776</td>
</tr>
<tr>
<td>Annual revenue</td>
<td>RM 20 billion / US$ 6.61 billion*</td>
<td>RM13.5 billion / US$ 4.46 billion*</td>
</tr>
<tr>
<td>Contribution to GDP</td>
<td>2.5%</td>
<td>2.2%</td>
</tr>
</tbody>
</table>

(source: National Biotechnology Policy and Frost & Sullivan)
In terms of contribution to GDP, the industry has achieved 2.2 percent contribution to GDP as against the target of 2.5 percent. However, the industry is expected to see a significant growth in size and the contribution to GDP is likely to rise significantly in the forthcoming years.


Growing Biotechnology Industry

The latest status of agriculture biotechnology, healthcare biotechnology and industrial biotechnology in Malaysia are depicted in Table 2 below:-

Table 2: Malaysian biotechnology sector – Recent Status

<table>
<thead>
<tr>
<th>AGRICULTURE BIOTECHNOLOGY</th>
<th>HEALTHCARE BIOTECHNOLOGY</th>
<th>INDUSTRIAL BIOTECHNOLOGY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plant genomics, animal health, diagnostics and biologics, fertilizer and soil enhancer, plant propagation via tissue culture, animal breeding and reproduction technology, nutraceuticals</td>
<td>Medical device and diagnostics, Contract manufacturing, Contract research, molecular and cell engineering, bioinformatics, tissue and stem cell engineering, biopharmaceuticals</td>
<td>Bioremediation, enzymes/catalyst, biodiesel production, contract research, microbes technologies, biocatalyst, bioinformatics</td>
</tr>
<tr>
<td>• The Malaysian agriculture biotechnology subsector is presently estimated to be worth US$ 67 million*.</td>
<td>• The Malaysian healthcare biotechnology subsector is still in a state of relative infancy, populated with many small and medium-sized companies primarily offering products and services in contract research, tissue banking, naturally derived products, in-vitro diagnostic and orthopedic devices.</td>
<td>• The Malaysian industrial biotechnology subsector is still experiencing much growth, with a vast majority of the companies being involved with fine and specialty chemicals.</td>
</tr>
<tr>
<td>• The sector is expected to grow at a CAGR of 16%, lead by the production of planting materials, natural products and biofertilizers.</td>
<td>• The sector is estimated to be worth US$ 1.37 million*, and is expected to grow at a CAGR of 10.5%.</td>
<td>• The sector is estimated to be worth US$ 111 million*, and is expected to grow at a CAGR of 10%.</td>
</tr>
<tr>
<td>• As of April 2011, 80 agriculture biotechnology companies have been conferred the BioNexus Status, accounting for US$ 259 million* in investment to date, and have contributed a cumulated revenue of US$ 192 million* to the Malaysian industry since 2007.</td>
<td>• As of April 2011, 70 healthcare biotechnology companies have been conferred the BioNexus Status, accounting for US$ 198 million* in investment to-date, and have contributed a cumulated revenue of US$ 114 million*.</td>
<td>• As of April 2011, 38 industrial biotechnology companies have been conferred the BioNexus Status, accounting for US$ 193 million* in investment, and have contributed a cumulated revenue of US$ 174 million* to the Malaysian biotechnology industry.</td>
</tr>
</tbody>
</table>


Footnotes
1. BiotechCorp is the leading agency mandated to oversee the development and well-being of the biotechnology industry in Malaysia. Among the fundamental roles of BiotechCorp is its function as a one-stop-centre for facilitation in the biotechnology industry, with the main aim of providing support and driving the growth of local biotechnology companies, while at the same time, attracting foreign direct investments (FDI) into Malaysia. BiotechCorp is also tasked to create a conducive and viable ecosystem for biotechnology in Malaysia.
2. BioNexus Status is a designation awarded to qualified biotechnology companies making these companies eligible to privileges under the BioNexus Bill of Guarantee, grants and tax incentives.
3. Bio-XCell is a joint venture between BiotechCorp and UEM Land Holdings Berhad. The Bio-XCell project entails the development of a 72.53-acre biotechnology park in Iskandar Malaysia, Johor. The biotechnology park will be developed in 3 phases over a span of 6 years, to provide an estimated 1.125 million square feet of dedicated, purpose-built space and facilities for biotechnology companies.
4. USD1=MYR3.02 as of 9 May 20011 (oanda.com)
Conclusion

Biotechnology in Malaysia is now heading for a year of transformation in 2011 when it advances from capacity building phase to commercialisation phase. Efforts have already commenced to convert science (R&TD) to business (products and services) and opportunities for profit. With comparatively lower costs of doing business, a stable financial system, dynamic physical and human capital infrastructure, Malaysia provides opportunities for global participation and robust development in the biotechnology sector. Leveraging on this competitive advantage and the industry’s positive development and growth - Malaysia anticipates to attract more participation from global biotechnology players as it strives to be the preferred destination for biotechnology investments. Undoubtedly, Malaysia presents a uniquely ideal environment for prospective biotechnology business to strategically grow as a leading and innovative global company.

About the Author

Zurina Che Dir is currently holding a position of Vice President Business Intelligence of Malaysian Biotechnology Corporation Sdn Bhd (BiotechCorp). Her main role is to strategise the direction of Malaysian biotechnology industry in line with the National Biotechnology Policy taking into consideration the latest development in the biotechnology industry locally, regionally and globally. BiotechCorp is the main government agency to develop the Malaysian biotechnology industry and creating conducive environment for companies operating in Malaysia. Before holding her current position, she was the Vice President Healthcare of the same organisation for the past 2 ½ years focused on business structuring and deals closing for foreign and local biotechnology/life science companies to be operated in Malaysia. She was also one of the pioneers involved in technology licensing deals and technology transfer for BiotechCorp's Biotechnology Acquisition Program namely for nanotechnology and protein microarray technology acquisition programmes. Having more than 10 years of experience in corporate finance, deals and structuring; holding a managerial position at Bursa Malaysia Stock Exchange; and as a Senior Associate at Securities Commission Malaysia had helped her to be where she is today.

Biodegradable Polymer
PLA, PLGA for Drug Delivery System
from JAPAN

No metal catalyst used !!

Your Gateway  http://www.pla-drugcarrier.com

- For sustained & long term drug release
- By direct condensation without polymerization catalysts
- Free from any contamination of heavy metals
- For laboratory scale developments
- For bulk commercial scale production

VENTURE CHEMICAL LTD.