



BIOTECHCORP
MALAYSIAN BIOTECHNOLOGY
CORPORATION

Accelerating **Biotechnology
Commercialisation**
Through **Global Collaboration**

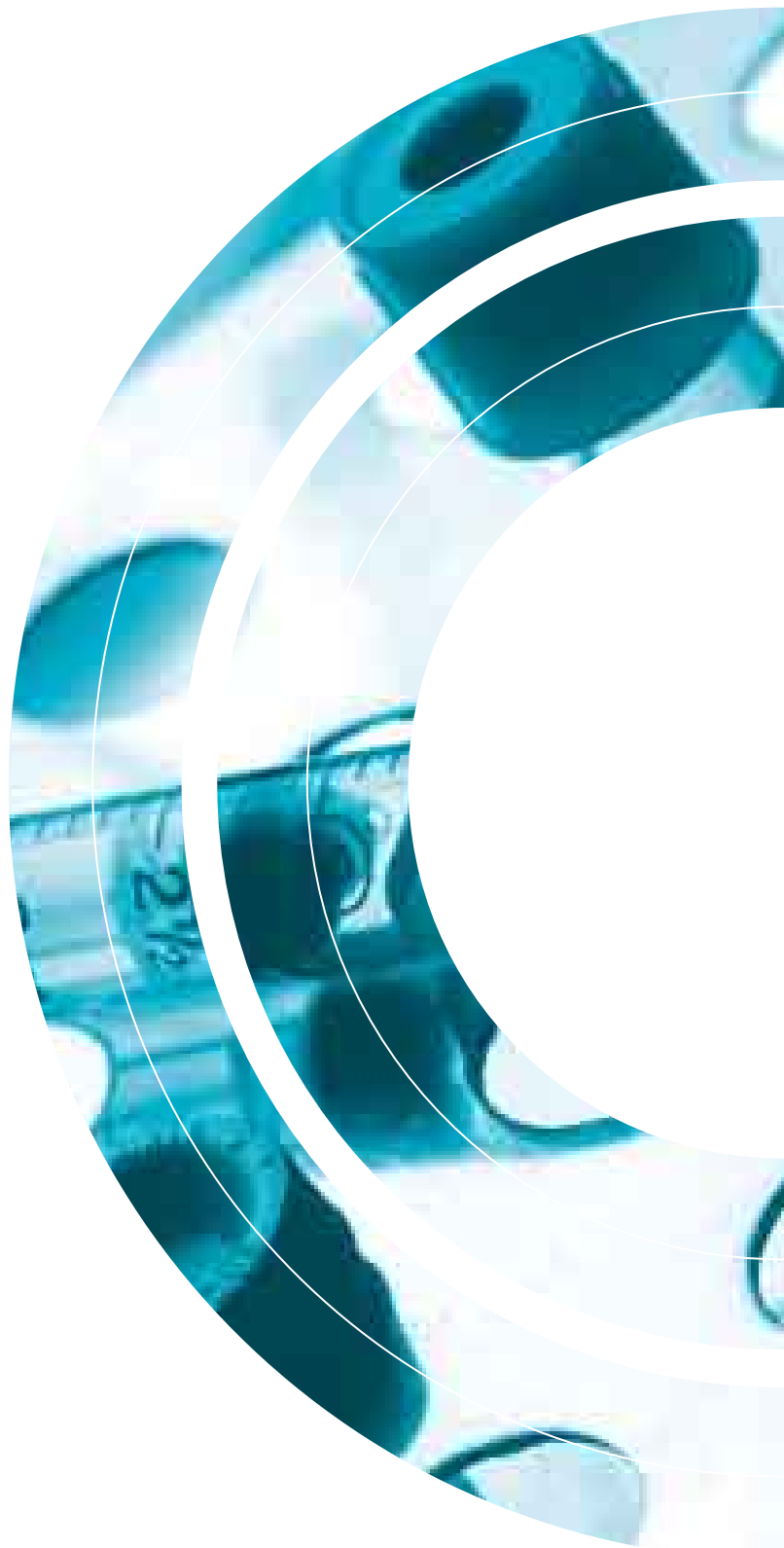
Annual Report 2011



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LAUNCHING THE
MALAYSIAN
BIOTECHNOLOGY
INDUSTRY'S PHASE 2
JOURNEY

2011 Highlights

Key Indicators for the Biotechnology Industry at 31 December 2011

INDICATORS	TARGETS				Achievements in 2005-2011 period
	Phase I (2005-2010)	Phase II (2011-2015)	Phase III (2016-2020)	Total (2005-2020)	
Investment by Private Sector and Government	RM6 billion	RM9 billion	RM15 billion	RM30 billion	RM10.7 billion
Number of BioNexus companies	25	25	50	100	210
Employment (at end period)	40,000	80,000	160,000	280,000	55,904
Annual Revenue (at end period)*	RM20 billion	RM80 billion	RM170 billion	RM270 billion	RM14.2 billion
Contribution to GDP	2.5%	4%	5%	5%	2.2%**

Source: BiotechCorp

Note:

* This is the total number/value at the end of each Phase. The target for 2020 is the same as that at the end of Phase III.

** This is the total of GDP Contribution reported as at the end of Phase 1.

Key Investments for the Biotechnology Industry at 31 December 2011

Company	Investments
Metabolic Explorer S.A.	A France based company - The first plant in the world to produce PDO (1,3 Propanediol) using crude glycerin with a total investment of RM100 million.
Glycos Biotechnology Inc.	A US based company - Using proprietary platform technology to produce technical grade ethanol using crude glycerine with a total investment of RM46 million.
Biocon Ltd	An India based company - One of the largest biotech companies in Asia and the first giant biotech company in India to establish a biomanufacturing and research & development (R&D) facility with total investments worth RM500 million.
CJ Cheiljedang Corporation & Arkema S.A.	A Korea-France JV company - A joint venture collaboration to establish the world's first green fermentation based L-methionine plant in the East Coast Economic Region (ECER), Malaysia.

BioNexus Companies: Approved Investment by Industry

Industry Sector	Total 2010 (RM)	Total 2011 (RM)	Total 2005 – 2011 (RM)
Agriculture	184.4 million	86.8 million	867.8 million
Healthcare	172.4 million	10.0 million	608.6 million
Industrial	115.4 million	88.1 million	669.7 million
Total	472.2 million	184.9 million	2,146.1 million

BioNexus Companies: Realised Investment by Industry

Industry Sector	Total 2010 (RM)	Total 2011 (RM)	% Growth (2010 – 2011)
Agriculture	714.6 million (42%)	890.0 million (41%)	↑ 24.5%
Healthcare	379.0 million (22%)	447.3 million (20%)	↑ 18.0%
Industrial	610.1 million (36%)	844.3 million (39%)	↑ 38.4%
Total	1,703.7 million (100%)	2,181.6 million (100%)	↑ 28.1%

BioNexus Companies: R&D Expenses by Industry

Industry Sector	Total 2010 (RM)	Total 2011 (RM)	% Growth (2010 – 2011)
Agriculture	31.5 million (49%)	24.5 million (31%)	↓ 22.2%
Healthcare	27.9 million (44%)	42.5 million (54%)	↑ 52.3%
Industrial	4.7 million (7%)	11.6 million (15%)	↑ 146.8%
Total	64.1 million (100%)	78.6 million (100%)	↑ 22.6%

BioNexus Companies: Employee by Industry

Industry Sector	Total 2010*	Total 2011	% Growth (2010 – 2011)
Agriculture	1,177 (46%)	1,292 (46%)	↑ 9.8%
Healthcare	825 (33%)	903 (32%)	↑ 9.5%
Industrial	539 (21%)	629 (22%)	↑ 16.7%
Total	2,541 (100%)	2,824 (100%)	↑ 11.1%

BioNexus Companies: Knowledge Worker by Industry

Industry Sector	Total 2010*	Total 2011	% Growth (2010 – 2011)
Agriculture	502 (43%)	531 (42%)	↑ 5.8%
Healthcare	482 (41%)	511 (41%)	↑ 6.0%
Industrial	181 (16%)	216 (17%)	↑ 19.3%
Total	1,165 (100%)	1,258 (100%)	↑ 8.0%

BioNexus Companies: Revenue Expenses by Industry

Industry Sector	Total 2010 (RM)	Total 2011 (RM)	% Growth (2010 – 2011)
Agriculture	215.4 million (48%)	280.6 million (39%)	↑ 30.3%
Healthcare	133.7 million (30%)	176.7 million (24%)	↑ 32.2%
Industrial	101.5 million (22%)	263.8 million (37%)	↑ 159.9%
Total	450.6 million (100%)	721.1 million (100%)	↑ 60.0%

Note: (Employee by Industry and Knowledge Worker by Industry)

* Denotes that figures published this year differ from those published in the 2010 Annual Report due to reclassification of categories on a number of companies in early 2011.

Malaysian Biotechnology Essentials

ABOUT BIOTECHNOLOGY

The United Nations Convention on Biological Diversity defines biotechnology as “Any technological application that uses biological systems, living organisms, or derivatives thereof, to make or modify products or processes for specific use.”

Given Malaysia’s history and aptitude for agriculture based economic activities, in 2005, the Malaysian Government recognised biotechnology as one of the key strategic drivers that will propel the nation’s social and economic development to greater heights. To create impetus for this new domain, the Government created the National Biotechnology Policy (NBP) developed according to the biotechnology Master Plan (2005-2020) to be implemented by the Malaysian Biotechnology Corporation Sdn Bhd (BiotechCorp), a dedicated biotechnology agency.

Having completed the first phase of the policy from 2005 – 2010 focusing on capacity building for the industry, BiotechCorp has entered the second phase of implementation from 2011 – 2015 which entails commercialisation and realising value unlocked by the industry through various initiatives.

NATIONAL BIOTECHNOLOGY POLICY

The National Biotechnology Policy (NBP) is a landmark policy encompassing nine thrusts which emphasise Malaysia’s intended direction and the Government’s proposed measures towards developing biotechnology for wealth creation and national well-being.

Thrust 1: Agricultural Biotechnology Development

Transform and enhance value creation of the agricultural sector through biotechnology.

Thrust 2: Healthcare Biotechnology Development

Capitalise on the strengths of biodiversity to commercialise discoveries in natural products as well as position Malaysia in the bio-generics market.

Thrust 3: Industrial Biotechnology Development

Ensure growth opportunities in the application of advanced bio-processing and bio-manufacturing technologies.

Thrust 4: R&D and Technology Acquisition

Establish Centres of Excellence, in existing or new institutions, to bring together multidisciplinary research teams in co-ordinated research and commercialisation initiatives. Accelerate technology development via strategic acquisitions.

Thrust 5: Human Capital Development

Build the nation's biotechnology human resource capability in line with market needs through special schemes, programmes and training.

Thrust 6: Financial Infrastructure Development

Apply competitive "lab to market" funding and incentives to promote committed participation by academia, the private sector as well as government-linked companies. Implement sufficient exit mechanisms for investments in biotechnology.

Thrust 7: Legislative and Regulatory Framework Development

Create an enabling environment through continuous reviews of the country's regulatory framework and procedures in line with global standards and best practices. Develop a strong intellectual property protection regime to support research and development (R&D) and commercialisation efforts.

Thrust 8: Strategic Development

Establish a global marketing strategy to build recognition for Malaysian biotechnology and benchmark progress. Establish Malaysia as a centre for Contract Research Organisations and Contract Manufacturing Organisations.

Thrust 9: Government Support and Commitment

Establish a dedicated and professional implementation agency overseeing the development of Malaysia's biotechnology industry, under the aegis of the Prime Minister and relevant Government ministries.

BIOTECHNOLOGY MASTER PLAN

PHASE 1: CAPACITY BUILDING (2005-2010)

Setting up the building blocks

1. Adoption of policies, plans and strategies
2. Establishment of advisory and implementation Councils
3. Establishment of Malaysian Biotechnology Corporation Sdn Bhd (BiotechCorp)
4. Capacity building in research and development
5. Industrial technology development
6. Develop agricultural, healthcare and industrial biotechnologies
7. Develop legal and intellectual property framework
8. Incentives
9. Business and corporate development through accelerator programmes
10. Bioinformatics
11. Skills development
12. Job creation
13. Regional biotechnology hubs
14. Develop BioNexus Malaysia as a brand

PHASE 2: SCIENCE TO BUSINESS (2011-2015)

Unlocking potential for the industry

1. Develop expertise in drug discovery and development based on biodiversity and natural resources
2. New products development
3. Technology acquisition
4. Promote Foreign Direct Investment (FDI) participation
5. Intensify spin-off companies
6. Strengthen local and global brands
7. Develop capability in technology licensing
8. Job creation

PHASE 3: GLOBAL BUSINESS (2016-2020)

Attaining world class status

1. Consolidate strengths and capabilities in technology development
2. Further develop expertise and strength in drug discovery and development
3. Leading edge technology business
4. Maintain leadership in innovation and technology licensing
5. Create greater value through global Malaysian companies
6. Rebranding of Malaysia as a global biotechnology hub

ABOUT BIOTECHCORP

Malaysian Biotechnology Corporation Sdn Bhd (BiotechCorp) (Company No. 691431-D) was incorporated under provisions of the Companies Act 1965 on 13 May 2005 to identify value propositions in research and development (R&D) and commerce and to support and facilitate these ventures through financial assistance and advisory services.

Structure

BiotechCorp is an agency of the **Ministry of Science, Technology and Innovation (MOSTI)**.

Its issued and fully paid share capital (95,000,002 ordinary shares of RM 1.00 each) is owned by the Ministry of Finance Incorporated (95,000,001 shares) and Federal Lands Commissioner (one share).

It is governed by the **Biotechnology Implementation Council (BIC)** and counselled by the **Biotechnology International Advisory Panel (IAP)** (both chaired by the honourable Prime Minister of Malaysia).

Key Mandates

- Act as a focal point for all biotechnology initiatives in Malaysia.
- Nurture and accelerate growth of Malaysian biotechnology companies.
- Actively promote foreign direct investments in biotechnology.
- Create a conducive environment for biotechnology in Malaysia.

Vision

To enhance the economic, health and social well being of the nation.

Mission

Lead the development of the biotechnology industry in Malaysia.

Corporate Values

Teamwork : *In a relationship based on mutual respect and understanding, we work together with our colleagues, clients and partners to achieve common goals.*

Integrity : *We conduct our business with uncompromising integrity.*

Excellence : *We strive to achieve excellence in all that we do.*

Accountability : *We drive the delivery of results for the organisation and the nation.*

Business Information

Registered Office & Principal Place of Business

Level 23, Menara Atlan
161B Jalan Ampang
50450 Kuala Lumpur
Malaysia

Principal Banker

Malayan Banking Berhad

Lot 1.01, Ampang Park
184 Jalan Ampang
50450 Kuala Lumpur
Malaysia

Auditor

Deloitte KassimChan Chartered Accountants

Level 19, Uptown 1
1 Jalan SS21/58
Damansara Uptown
47400 Petaling Jaya
Malaysia


Tax Consultant

Ernst & Young Chartered Accountants

Level 23A, Menara Millenium
Jalan Damanlela
Pusat Bandar Damansara
50490 Kuala Lumpur
Malaysia

BIOTECHCORP: INDUSTRY CATALYST AT WORK

Chairman's Message



The National Biotechnology Policy (NBP) which spans 2005-2020 covers three phases. The first phase was in the first five years building up capacity, whilst the year 2011 saw the Malaysian biotechnology industry, led by BiotechCorp stepping into the second phase of the NBP which will last until 2015. Upon completion, from 2016 onwards our efforts will be focused on making greater inroads into the global biotechnology landscape and attaining a world class standard for this industry.

In the current phase, the industry undergoes an ultimate test of viability as it embarks upon efforts to intensify the business appeal of biotechnology initiatives. This is the stage where we are able to gauge the effectiveness of our efforts, where they are translated into value which can be generated for the industry. We have successfully moved from science to business.

Indeed, the BiotechCorp's mandate includes acting as the lead agency for all biotechnology initiatives in the country which includes nurturing biotechnology companies, creating a holistic environment to propagate industry growth and attracting investments into this sector. We are pleased to note that the industry has recorded significant progress, punctuated by milestones that attest our capability of remaining on track, with our aspiration to maximise the potential of the industry.



Malaysia as a medium size economy prevails in an open competitive global market. Nonetheless, our geographical, historical and social make-up has continued to be an excellent backdrop for the birth of new ideas and harnessing of opportunities.

Within the biotechnology context, the richness of our natural resources and biodiversity provides us with a perfect platform to be capitalised upon. Given the existence of Malaysia's bountiful plant-based treasures, we are confident that commercialisation of discoveries in natural products puts Malaysia in a good position to capture opportunities in the growing wellness market. In the past few years, we have seen the successful commercialisation of a number of natural substances, with some attaining global acclaim.

Our racial mix provides a diverse genetic pool and positions us as a great hub for clinical trials. With effective costs in research and development (R&D) and a well regulated framework, we have certainly made inroads in this area. Stempeutics, a BioNexus Status company, with its stem cell research in neurological and orthopedic areas has placed Malaysia as one of the leading countries after USA to reach such a high level in stem cell research.

Our strengths as a manufacturing hub and proximity to raw materials and feedstock bode well for the bioprocess and biomanufacturing sectors. Products currently being developed by our network of BioNexus Status companies are also being produced for global markets. In terms of the numbers doing the talking, cumulative revenue from 2007 to 2011 hit RM1.0 billion from export sales and RM1.2 billion from local sales.

Our position as a halal hub gives us the opportunity to lead in active pharmaceutical ingredients (APIs), vaccines and generics within the halal space. With an estimated 2 billion Muslim consumers worldwide, the global market for halal food and non-food products is valued at US\$2 trillion. There are companies in Malaysia that are already producing halal products.

Finally, our research and development and commercialisation (R&D&C) capabilities put us in strong stead to continue to capitalise on industry growth potential. We have made breakthroughs in R&D on oil palm and rubber genomics. Our BioNexus Status companies have won awards. For example, Siogen Biotech received the "Most Innovative Start-up in Asia Pacific in 2009" for the BioSingapore Asia Pacific Biotechnology Award with their proprietary technology for drug delivery.

BiotechCorp's initiatives in driving the industry forth are also bearing fruit. Bio-XCell, the first dedicated biotechnology park and ecosystem in Malaysia is designed for healthcare and industrial biotechnology, with focus on manufacturing and R & D. We have achieved positive response so far as international investors identify with the infrastructure, logistics, accessibility and connectivity that supports Bio-XCell.

Global giants Biocon, Metabolic Explorer and Glycos Biotechnologies were the early entrants to this knowledge-intensive bio processing and bio manufacturing hub – ideal as a launch pad to unlock the potential of the Asian market.

In blazing the trail moving forward, Malaysia has ambitious plans for its biotechnology sector. By 2020, the government expects the sector to create 280,000 employment opportunities and contribute 5% of the country's GDP. However, we realise that we are operating in an increasingly challenging global economic landscape. Worries of the deepening Eurozone continue to dominate sentiments world-wide, but that is not to say there is no silver lining to this cloud. We offer serious global investors a conducive and competitive environment that will make Malaysia one of the most appealing biotechnology destinations in this region.

While BiotechCorp remains firmly focused on our efforts of developing the industry in Malaysia, I also believe, with a little perseverance this can be achieved with continued commitment from the Government and a robust framework for regional and global collaboration.

In realising the NBP, BiotechCorp will continue to accelerate commercialisation in biotechnology to transform Malaysia into a knowledge-based economy and an industrialised nation by year 2020.

Now that we are on the threshold of even greater achievements, I would like to acknowledge that coming this far would not have been possible without the support of our various stakeholders. I am especially grateful to the Government of Malaysia for the support extended to us in bringing this industry to the level it is at today.

Also of note is the contribution of my fellow board members, the management and team at BiotechCorp. Each of you have in your own ways been instrumental to the successes achieved thus far and although the journey is far from over, I trust that you will continue to do what it takes to realise the collective vision we all share for the Malaysian biotechnology industry.

Last but not least, I would like to thank all our industry players who add clout and dynamism to the industry. You have helped us build this industry from ground up and now we stand together at the brink of more exciting things ahead, which I am convinced, appeals for your continued support of the Malaysian biotechnology industry.

Tan Sri Datuk Dr Ahmad Zaharudin Idrus
Chairman

BIOTECHCORP: INDUSTRY CATALYST AT WORK

CEO's Report



Seven years after the establishment of the Malaysian Biotechnology Corporation Sdn Bhd, as we move into the second phase of the implementation of the National Biotechnology Policy (2005-2020) which focuses on commercialisation, the impetus for industry growth continues to gain momentum.

Now more than ever, the global biotechnology industry is underscored by tremendous dynamism and change. The Malaysian biotechnology industry too continues to experience an exciting pace of development. Having transcended the first part of our journey in building up the industry and putting in place relevant mechanisms to catalyse development, in this present phase, we realise that the impetus for us really is to create greater impact and drive synergy between our industry and the global marketplace.

Today, sustainability has become the touchstone of discussions about relationships between businesses and the society. It has also become absolutely critical for corporations to meaningfully engage with its stakeholders and respond to their needs and expectations against a backdrop of transforming economic, regulatory and social landscapes.

In formulating our five-year Business Plan for 2011-2015, we were cognisant of the national economic and policy agendas, particularly the New Economic Model and the Economic Transformation Programme (ETP). We remain guided by our role in supporting national growth needs and aspirations, while meeting the challenges of regional competition and globalisation of the industry.

Highlights of 2011

Our 2011 journey has been characterised by efforts to intensify growth and unlock value for various stakeholders. In driving the industry forward, our focus areas continue to be the three key segments which are agricultural biotechnology, healthcare biotechnology and industrial biotechnology. These three institutes will serve as the industry drivers that work towards the securing of investments and other developmental initiatives to propel the industry through its various stages of growth.

Below are some of BiotechCorp's key achievements in 2011:

BioNexus companies scale new heights - As we enter the second year of the commercialisation of the NBP, we have now under our care 210 BioNexus (BNX) companies with total approved investments worth more than RM2 billion. BioNexus Malaysia was established to facilitate the marketing of biotechnology industry. It comprises a group of specialised companies and institutions that can support each other to create a synergistic network, which also sees the companies being incentivised to encourage participation of companies and institutions. As at 31 December 2011, more than 50% of these companies are already generating revenue with five currently listed in various stock exchanges with a market capitalisation of more than RM800 million. The revenue by industry for BNX companies grew 60% in 2011 to RM721.1 million compared to RM460.6 million in 2010.

Bio-XCell gains traction - One of the biggest initiatives to come out of BiotechCorp to date has been the Bio-XCell project, Asia's new regional biotechnology hub established two years ago as one of the industry's flag bearers. It is a platform where BiotechCorp pools soft infrastructure – financial incentives, human capital development, business and operational set-up advisory, attractive leasing models, and the physical infrastructure that will enable companies to springboard their biotechnology business and commercialisation activities. As of 2011, three global names are present within Bio-XCell, namely Biocon Ltd, France-based Metabolic Explorer and US-based Glycos Biotechnologies Inc., with investments totalling RM 650 million.

Facilitating industry – academia collaboration - BiotechCorp continues to engage with universities and research institutes to support and enhance their role as active players in commercialisation activities in addition to their traditional focus on education and fundamental research. This is especially crucial as there is need for exchange of information, data and scientific findings between industry and academia. In 2011, under the BioNexus Partners programme, BiotechCorp is collaborating with 56 labs in universities and research institutes to facilitate industry access which can spur the commercialisation of R&D products and services.

Pulling in global names - As a testament to the global appeal of the Malaysian biotechnology industry, it is certainly heartening to note that Malaysia continues to be a destination of big foreign names. This is reflected by equity participation of international investors in BioNexus companies as well as the presence of global biotech giants within the Bio-XCell space. Supported by BiotechCorp's other initiatives in building an enabling environment, the BioNexus Programme and Bio-XCell initiative have evolved into becoming bastions of credibility for Malaysia's emerging biotechnology sector.

Despite the global economic slowdown in 2011, Malaysia continues to attract considerable biotechnology investments from the private sector outside of its BioNexus Programme. Some of the more notable investments include investments by a joint-venture between South Korea-based CJ CheilJedang and French chemical producer Arkema, to build the world's first bio-methionine plant, and collaboration between Japan-based Mitsui Engineering and Shipbuilding and Sime Darby Plantation, to build a bioethanol demonstration plant by converting empty oil palm fruit bunches.

Preparing for the future - Intensifying biotechnology proliferation in Malaysia

Looking ahead, we remain focused on accelerating the execution of our growth strategy while continuing to build on the strength and stature of BiotechCorp's developmental role in in shaping the future of sustainable industry.

For an industry that is well - placed to capitalise on numerous strengths available to us in this country including biodiversity, a supportive Government and a growing appetite for entrepreneurship, we believe that there exists an urgent need to address certain areas that will help accelerate our effort towards becoming a global player of high repute in the biotechnology space. We are further assured by Malaysia's resilient economic fundamentals, strong domestic demand and most importantly, the government's strategic initiatives that are directly benefiting the industry.

Fostering innovation - The year 2012 has been declared as the 'Year of Science and National Innovation Movement' year. This double initiative is designed to reinforce the nation's agenda in promoting the spirit of innovation and creativity across all segments of our society. Several strategic initiatives will be implemented to instil and inculcate innovation in schools and institution of higher learning. The programmes will also reach rural areas and ensure that grass-root innovation is also nurtured and supported.

The challenge now is to make a quantum leap towards developing an innovative society and a high income economy, and for Malaysia to be a recognised innovation powerhouse in this region. This is possible with careful planning and clear strategies. The government's focus is also on Science Technology and Innovation (STI) as part of this transformational change.

Engaging financiers - Securing financing for viable biotechnology projects continues to remain a challenge because the financial services industry and most investors are unfamiliar with the industry and industry players themselves often find it hard to articulate the value of their projects meaningfully to various stakeholders. However, one way in which this gap can be bridged is by ensuring that viable projects gain intellectual property registration, which can then be used as collateral to derive financing. BiotechCorp hopes to address it by facilitating the achievement of IP rights while at the same time engaging with the financing community including financial institutions, angel investors and venture capitalists among others to educate them further about the industry.

Driving industrial biotechnology - Industrial biotechnology will be a key sector in which Malaysia is gearing towards utilising its full potential. As the world's second largest exporter of palm oil, Malaysia's palm oil waste alone holds tremendous opportunity and potential for the creation of high value industrial applications ranging from biofuels to bioplastics that can be generated from its biomass.

The country intends to put in place a framework and strategy for biomass utilisation to derive the full benefits from oil palm and other agricultural waste which will contribute to energy sustainability and environmental solutions while opening the pipeline for creating other value propositions. Collaborations between public and private institutions must be promulgated to unlock value from the breadth and depth of our available biomass.

Encouraging bioeconomy - The Organisation for Economic Development and Cooperation (OECD) estimates that Bioeconomy will contribute a global average of 2.7% to GDP. Bioeconomy will also contribute 10-14 new drugs per year over the next 5 years and will be responsible for 10% of chemical production by 2030. Thus I do believe that latching on to the Bioeconomy agenda where we have some clear advantage is very much a key element within our STI strategy.

The Bioeconomy Initiative Malaysia (BIM) was announced by YAB Dato' Sri Mohd Najib Tun Razak in November 2011. With the BIM, Malaysia has taken the early critical steps to coordinate and intensify national efforts to exploit the potential economic benefits of bioeconomy and I believe that the BIM will further enhance the role of biotechnology as a key cross-cutting technology driver in transforming Malaysia into a high income economy.

With effort, BiotechCorp is facilitating the bioeconomy lab under the ETP, following which will launch projects that will complement the commercialisation efforts underway in the current phase of the NBP.

We are enthusiastic about the prospects of Bioeconomy Initiative Malaysia as a sustainable growth model for long-term benefits to Malaysia's economy, welfare, productivity, health, environmental and societal well-being. We also see greater potential for BiotechCorp to enhance its role in developing the biotechnology industry in Malaysia. In light thereof, we look forward to engage proactively with relevant stakeholders, for example, policy makers, regulators, governmental organisations and industry participants to build win-win relationships and ensure optimal outcomes. We remain confident in our ability to meet our targets for the coming year, while staying on track to develop the biotechnology industry of Malaysia to greater heights.

Appreciation

Having been in office for the last one year, I believe the role for BiotechCorp in spearheading the development of the industry is clear cut and we acknowledge that our efforts to see the blueprint into fruition cannot be achieved without the contributions of our various stakeholders.

Whilst the formative years of BiotechCorp have passed and we are now well into the 'proof of concept' stage for this organisation in harnessing the value of the industry, an important group of stakeholders that I would like to thank are my entire team at this organisation. Their talent and dedication is what propels BiotechCorp to greater heights and they are an admirable group of people.

Our distinguished Board of Directors, led by Chairman YBhg Tan Sri Datuk Dr Ahmad Zaharudin Idrus plays the all too important role of setting the pace for BiotechCorp and ensuring that our roles are performed to a tee. Indeed, I am deeply grateful for the guidance and oversight.

And finally, I would like to record my sincere appreciation to industry stakeholders and other partners who have been instrumental in the implementation of the NBP. Without you, there would be no biotechnology industry in Malaysia and I certainly look forward to a greater level of engagement and collaboration in reaching our objectives.

Thank you.

Dato' Dr Mohd Nazlee Kamal
Chief Executive Officer

THE
PEOPLE
PERSPECTIVE
Board of Directors



**1. YBhg Tan Sri Datuk Dr Ahmad
Zaharudin Idrus**



2. YBhg Dato' Dr Mohd Nazlee
Kamal



3. YBhg Tan Sri Dato' Dr Jegathesan
a/l N.M. Vasagam @ Manikavasagam







1. YBhg Tan Sri Datuk Dr Ahmad Zaharudin Idrus (Chairman)

YBhg Tan Sri Datuk Dr Ahmad Zaharudin Idrus, a Malaysian, aged 67, was appointed by the Prime Minister of Malaysia as Chairman of BiotechCorp on 16 May 2005.

He has served as the Science Advisor to the Prime Minister of Malaysia from 2001 to 2006. He was the Vice Chancellor of Universiti Teknologi Malaysia from 1994 to 2001.

YBhg Tan Sri Datuk Dr Ahmad Zaharudin obtained his Master's and PhD degrees from the University of Aberdeen (UK) after graduating with an Agricultural Science degree from Universiti Malaya in 1969.

He has been highly instrumental in the development of the Malaysian science and technology agenda. He served as Secretary of the National Council of Scientific Research and Development under the Ministry of Science, Technology and the Environment from 1981 to 1986. He was subsequently appointed as the Controller of the Standards and Industrial Research Institute of Malaysia (SIRIM), a position he held from 1986 to 1989.

Prior to his term at Universiti Teknologi Malaysia, YBhg Tan Sri Datuk Dr Ahmad Zaharudin served as the Director of Petronas Petroleum Research Institute from 1989 to 1992 and later as the Managing Director of Petronas Scientific Services from 1992 to 1994. He was also a member of the Board of Petronas Refineries Pte. Ltd from 1989 to 1994.

Besides serving as Chairman of BiotechCorp and several other organisations, he is also a member of the IDB Advisory Panel on Science and Technology, Islamic Development Bank, Jeddah, Saudi Arabia.

His contributions in the field of science and technology have gained him international recognition. In 1993, he received the Norway Award for Outstanding Contribution in the Field of Technology and in 1997, the ASEAN Achievement Award for Science.

YBhg Tan Sri Datuk Dr Ahmad Zaharudin was conferred the D.Sc (Hons. Causa) by the University of Portsmouth in 1998. Subsequently, the D.Sc (Honorary) by the University of Loughborough, Universiti Teknikal Malaysia Melaka in 2003, Universiti Teknologi Malaysia in 2005 and the Open University Malaysia in 2006.

In honour of his contributions, YBhg Tan Sri Datuk Dr Ahmad Zaharudin was conferred the award of "Chevalier de la Legion d'Honneur" by the French Government in 2004.

2. YBhg Dato' Dr Mohd Nazlee Kamal (Chief Executive Officer)

YBhg Dato' Dr Mohd Nazlee Kamal, a Malaysian, aged 48, was appointed to the Board on 18 July 2011.

He holds a PhD in Chemical Engineering (Bioprocess) from the University of Queensland (Australia), a Masters of Applied Science in Biotechnology from the University of New South Wales (Australia) and a Bachelor of Science in Chemical Engineering from Oregon State University (US).

An academician, scientist and innovator with business and entrepreneurship acumen, he brings a wealth of marketing and technical expertise to BiotechCorp. He is well-recognised for his wide industrial leadership and has played a pivotal role in the formulation of the National Biotechnology Policy.

YBhg Dato' Dr Mohd Nazlee began his career as an academician at Universiti Teknologi Malaysia (UTM), where he was involved in the development and establishment of the Bioprocess Engineering programme under the Faculty of Chemical and Natural Resources. One of his other key achievements during his 10 years tenure was the invention of the "External Spinfilter", which is now marketed by Sartorius BBI Systems (Patent No. PI9701436MY-131798-A).

He entered the corporate sector in 1997, joining B. Braun Malaysia. He subsequently served Amersham Biosciences as the Asean Business Area Manager (Separation) where he led the sales and marketing effort for the Separations product range in the region. In 2001, he was the Business Development Manager in Sartorius (M) Sdn Bhd where he made significant contribution to the company's sales and marketing effort for bioreactors in Malaysia.

YBhg Dato' Dr Mohd Nazlee was instrumental in the establishment of Inno Biologics Sdn Bhd, the first contract manufacturing organisation for biopharmaceuticals in Malaysia, and continued at the helm of the Company as Chief Executive Officer (CEO) for 10 years. He was also the Group Managing Director of Inno Bio Ventures Sdn Bhd, the holding company of Inno Bio Group of Companies.

He is a member of the International Society of Pharmaceutical Engineering (ISPE), the Malaysian Society for Molecular Biology and Biotechnology (MSMBB) and the Institution of Chemical Engineers (IChemE). He also sits on the Advisory Panel of the Northern Corridor Implementation Authority (NCIA) for Plant Science and Tissue Culture Node (PSTCN). His involvement as a Council member for the National Innovation Council (NIC), Global Science and Innovation Advisory Council (GSIAC) as well as the Steering Committee for National Biomass Strategy, is imminent in the effort of integrating Government initiatives with industry players in biotechnology.

YBhg Dato' Dr Mohd Nazlee is currently the Chairman of Malaysian Bio-XCell Sdn Bhd, Member of the Board of BiotechCorp Investment Holdings Sdn Bhd, BiotechCorp Technology Management Sdn Bhd and Malaysian Forestry Research and Development Board.

3. YBhg Tan Sri Dato' Dr Jegathesan a/l N.M. Vasagam @ Manikavasagam

YBhg Tan Sri Dato' Dr Jegathesan a/l N.M. Vasagam @ Manikavasagam, a Malaysian, aged 68, was appointed to the Board on 17 October 2011.

He graduated with a Bachelor of Medicine and Bachelor of Surgery (MBBS) from the University of Singapore (Singapore) in 1967. He also holds a Diploma in Tropical Medicine and Hygiene from Mahidol University (Thailand) and Diploma in Clinical Pathology from the University of London (UK).

He is a Fellow of the Royal College of Pathologists (UK), College of American Pathologists (US), Royal College of Pathologists of Australasia (Australia) and Academy of Medicine (Malaysia). He is also a Senior Fellow and Academician of the Academy of Sciences (Malaysia).

Having served a full term of illustrious career in the Ministry of Health, YBhg Tan Sri Dato' Dr Jegathesan has held notable posts such as Director of the Institute of Medical Research and Deputy Director General (Research and Technical Support) of the Ministry of Health. He has served as adviser to international agencies such as the World Health Organisation and the United Nations Development Programme (UNDP)-affiliated Council for Health Research and Development in Geneva. From 2000 to 2003, he was the Chief Executive Officer of Sistem Hospital Awasan Taraf Sdn Bhd (SIHAT), a health facilities consulting company.

YBhg Tan Sri Dato' Dr Jegathesan currently holds positions as Pro-Chancellor of Universiti Sains Malaysia, Deputy Vice-Chancellor (Research) of MAHSA University College and Consultant Microbiologist in the private sector.

In addition to his distinguished career in the medical profession, YBhg Tan Sri Dato' Dr Jegathesan was Malaysia's first Sportsman of the Year in 1966. He represented Malaysia in three Olympics and two Asian Games where he broke records and won medals, earning him the moniker of "Fastest man in Asia". He was also the joint winner of the National Science Award and the Rotary Club of KL Research Award in 1995.

He currently also serves on the Board of CCM Duopharma Biotech Berhad.

4. YBhg Dato' Madinah Mohamad

YBhg Dato' Madinah Mohamad, a Malaysian, aged 55, joined the Board on 12 June 2009.

She holds a Master's degree in Human Resource Development from Universiti Putra Malaysia. She graduated with a Bachelor's degree in Social Science (Political Science) from Universiti Sains Malaysia.

She is currently the Secretary General of the Ministry of Science, Technology and Innovation, Malaysia (MOSTI); a position she has held since 22 April 2009. As the Secretary General, she oversees the development of policies and implementation of the science, technology and innovation agenda in Malaysia and operations of MOSTI.

Prior to her current position, YBhg Dato' Madinah served in various Government agencies such as the Public Service Department, the Ministry of National and Rural Development, the Ministry of Works, and the National Unity and Integration Department.

She began her civil service career as an Administrative and Diplomatic Officer in 1981 with the Ministry of Foreign Affairs.

She was awarded the Darjah Kebesaran Sri Indera Mahkota Pahang (SIMP) by His Royal Highness, Sultan of Pahang in 2009.

She currently also serves on the Boards of Malaysian Technology Development Corporation Sdn Bhd, Malaysian Industry-Government Group for High Technology, Multimedia Development Corporation Sdn Bhd, Technology Park Malaysia Corporation Sdn Bhd, CyberSecurity Malaysia, Malaysian Foundation for Innovation, .my Domain Registry, Malaysian Communications and Multimedia Commission, Securities Commission Malaysia, Malaysia Nuclear Power Corporation and National Science and Research Council.

5. Professor Dr Zainul Fadziruddin Zainuddin

Professor Dr Zainul Fadziruddin Zainuddin, a Malaysian, aged 51, was appointed to the Board on 4 September 2009.

He holds a PhD in Molecular Biology from the University of Surrey (UK) and a Bachelor of Science in Microbiology from the University of East Anglia (UK).

Professor Dr Zainul Fadziruddin started his career in 1988 as a lecturer at the School of Medical Sciences, Universiti Sains Malaysia (USM), Pulau Pinang. He has held various positions in the said university including the position of Head of Department of Medical Microbiology & Parasitology, School of Medical Sciences, Founding Dean of the School of Health Sciences and Director of the Innovations Office, Research and Innovation Division. Currently he is on secondment at the Malaysian Technology Development Corporation Sdn Bhd as the Director for Advisory, Incubation and Nurturing.

He currently also sits on the Board of Xeraya Capital Sdn Bhd.

6. Puan Norsimah Ab Wahab

Puan Norsimah Ab Wahab, a Malaysian, aged 55, was appointed to the Board on 1 August 2011.

She holds a Bachelor of Science (Hons) in Biology from Universiti Sains Malaysia and a Diploma in Administration from the National Institute of Public Administration of Malaysia.

Puan Norsimah is currently the Deputy Secretary (Operation) II of the Government Procurement Division, Ministry of Finance.

She was awarded the Kesatria Mangku Negara (K.M.N) in the year 2010.

Puan Norsimah Ab Wahab currently also sits on the Board of Universiti Pendidikan Sultan Idris (UPSI).

7. Tuan Haji Mohd. Radzi Hussein

Tuan Haji Mohd. Radzi Hussein, a Malaysian, aged 58, is a member of the Board since 21 May 2008.

He holds a Master's degree in Business Administration from the University of Wales, Aberystwyth (UK) and a Bachelor of Accounting (Hons) from Universiti Malaya. He is a member of the Malaysian Institute of Accountants.

He joined the Government in 1982 as Treasury Accountant in the Ministry of International Trade and Industry. From 1984 to 1993, he served as a Senior Treasury Accountant in the Accountant General's Department, Kuala Lumpur.

Later in 1993, Tuan Haji Mohd. Radzi was seconded to Universiti Utara Malaysia as the Deputy Bursar, a position he held until 1997. From 1997 to 2001, he served as the State Treasurer for Kedah State Government. Tuan Haji Mohd. Radzi was then again seconded to Kedah Akuakultur Sdn Bhd as Finance Manager for a period of one year.

He was promoted and transferred in 2002 to take up the position of Chief Accountant in the Ministry of Home Affairs in Putrajaya.

In 2004, he was appointed as the Deputy Director, Information Technology Management Division of the Accountant General's Department. He was then promoted and served as the Director of the said Division from 2008 until his retirement in 2011.

Tuan Haji Mohd. Radzi currently also serves on the Board of Pengurusan Aset Air Berhad.

8. Dr Radzuan A. Rahman

Dr Radzuan A. Rahman, a Malaysian, aged 68, was appointed to the Board on 16 December 2011.

He holds a Master's and PhD in Resource Economics from Cornell University, New York (US) and a Bachelor in Agricultural Science from Universiti Malaya.

He has an outstanding career in both the academic and corporate sectors. He was an academician for 11 years where he rose to become the Dean of the Resource and Agribusiness Faculty, Universiti Putra Malaysia. Subsequently, Dr Radzuan A. Rahman joined Sime Darby Plantations as the Regional Director for Melaka, Negeri Sembilan and Johor regions, where he was later promoted to Director of the Development Division.

In 1984, Dr Radzuan joined Golden Hope Plantations as the Director of Corporate Planning. He was later elevated to Group Director – Plantations, where he served the company for a further 6 years. Since his retirement from Golden Hope Plantations, he has served as Managing Director to several corporations, namely Austral Enterprises Berhad, Island & Peninsular Berhad and Tradewinds Plantation Berhad.

Dr Radzuan currently also serves on the Boards of Kulim (Malaysia) Berhad, Idaman Unggul Berhad, Inch Kenneth Kajang Rubber Public Limited Company, Marditech Corporation Sdn Bhd, MAEPS Management Sdn Bhd, Green Capital Sdn Bhd and Kenangan Cergas (M) Sdn Bhd.

9. Encik Amirul Fares Wan Zahir

Encik Amirul Fares Wan Zahir, a Malaysian, aged 44, was appointed to the Board on 16 December 2011.

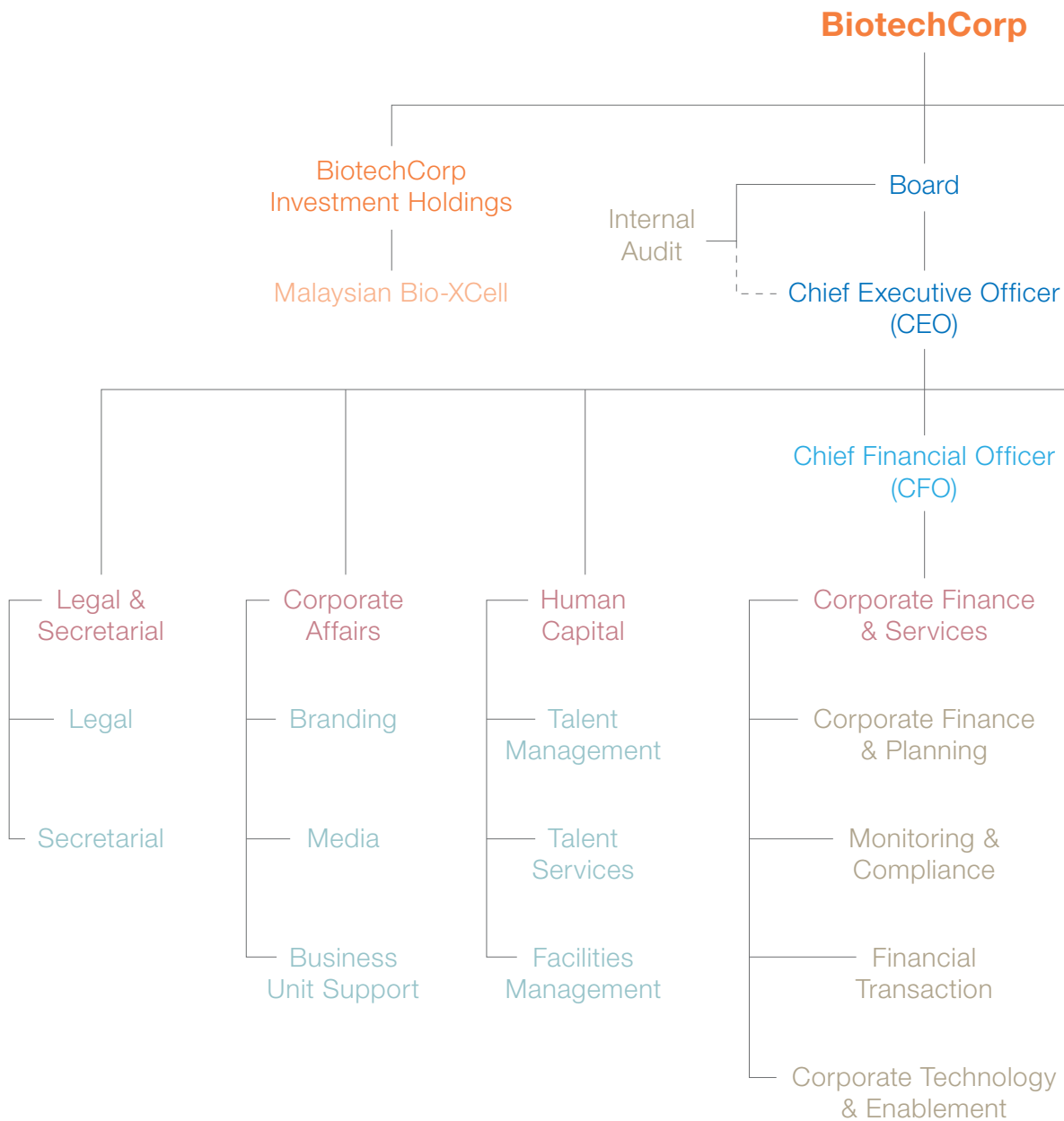
He holds a Master's degree in Operations Research from University Technology of Sydney (Australia) and a Bachelor's degree in Economics majoring in Actuarial Studies from Macquarie University (Australia). He is a Chartered Financial Analyst (CFA) and an Associate of the Society of Actuaries (ASA).

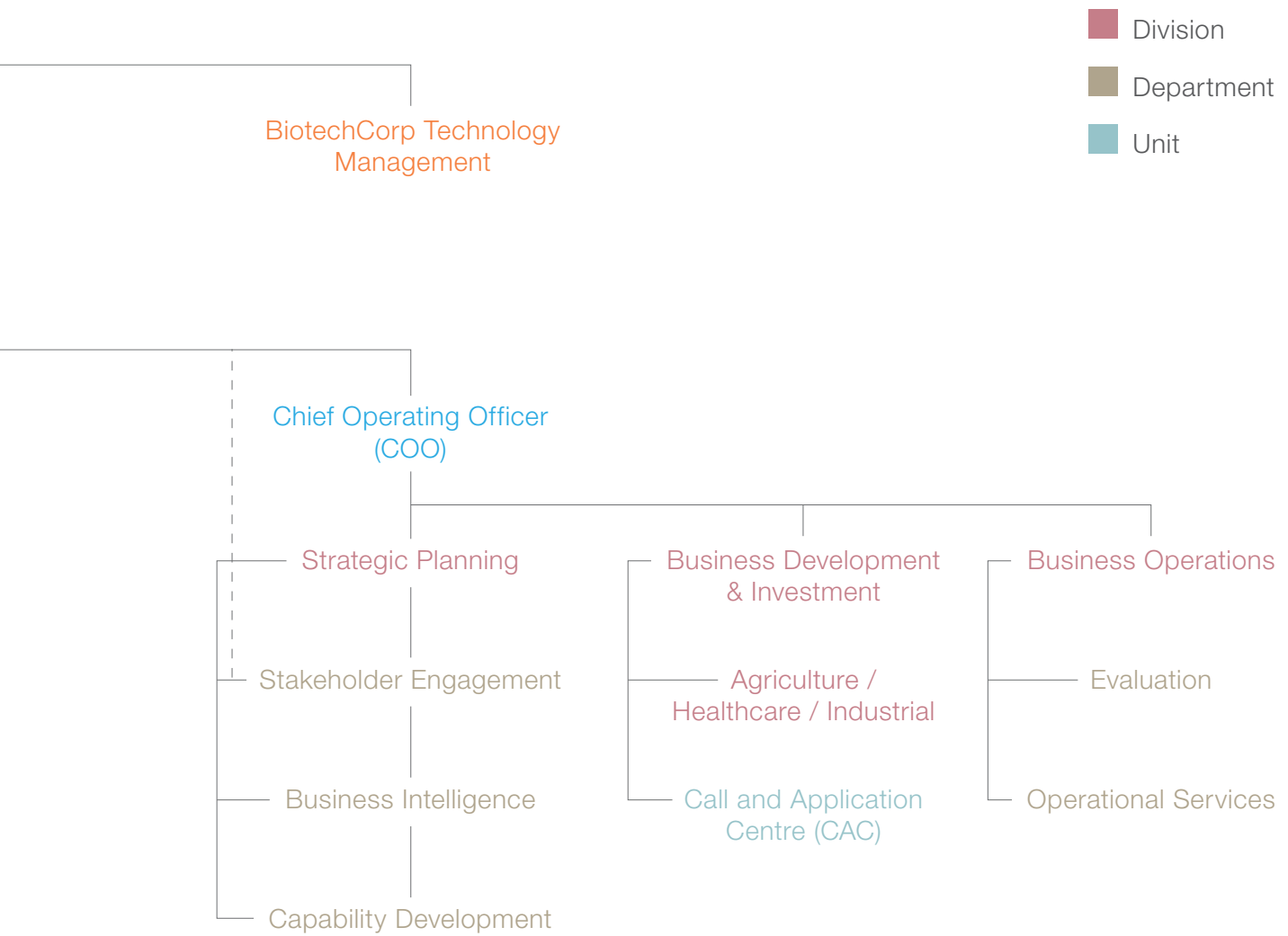
Encik Amirul is currently the Director, Head of Research of Khazanah Research & Investment Strategy (KRIS) and he leads the Life Sciences investments for Khazanah Nasional Berhad.

He has served in the actuarial department of American International Assurance Co. Ltd (AIA). He later joined an associate company of Schroder Investment Management, rising to become the Fund Manager, where he was in charge of managing institutional client portfolios and unit trusts. Prior to his current position, he was the Director of UBS Investment Research in UBS Investment Bank.

Encik Amirul currently also serves on the Boards of Malaysian Technology Development Corporation Sdn Bhd, SpringHill BioVentures Sdn Bhd and is the Co-Chairman of the Malaysian Life Sciences Capital Fund.

Organisation Structure





The Management Team



1. YBhg. Dato' Dr Mohd Nazlee Kamal
Chief Executive Officer

2. Dr Wan Abdul Rahaman Wan Yaacob
Chief Operating Officer

3. Tuan Syed Agil Syed Hashim
Chief Financial Officer

4. Encik Mohd Yazid Abd Hamid
Senior Vice President, Strategic Planning

5. Puan Azni Hasan Basri
Senior Vice President, Human Capital



6. Encik Razif Abd Aziz
Senior Vice President, Business Operations

7. Mr Selvam Ramaraj
Senior Vice President, Business
Development & Investment - Healthcare

8. Encik Razwin Sulairee Hasnan Termizi
Senior Vice President, Business
Development & Investment - Industrial

9. Dr Abdul Manaf Mohamad Radzi
Senior Vice President, Business
Development & Investment - Agriculture

10. Cik Sharifah Hanifah Syed Abdul Aziz
Senior Vice President, Legal & Secretarial





ACCELERATING
BIOTECHNOLOGY
GROWTH
IN MALAYSIA

Accelerating Biotechnology Growth In Malaysia

CALENDAR OF EVENTS 2011

14 January 2011

Four Seasons Hotel, Washington DC, USA

LAUNCHING CEREMONY OF MyBEST PROGRAMME

MyBeST was organised to provide training in bioprocess operations and other specialisation areas to fill the demand for knowledge workers in the domestic biotechnology sector. The event was launched by Deputy Prime Minister of Malaysia Yang Amat Berhormat Tan Sri Muhyiddin Yassin.

31 March 2011

PNB Darby Park Kuala Lumpur, Malaysia

BUSINESS DEVELOPMENT WORKSHOP (HEALTHCARE)

A one-day Business Development workshop for the healthcare industry with objectives of identifying current challenges, understanding immediate needs, addressing concerns of BioNexus companies in business development as well as developing cohesive strategies for business development.

14 April 2011

Sheraton Imperial Hotel Kuala Lumpur, Malaysia

OFFICIAL ANNOUNCEMENT OF THE FIRST STEM CELL BASED PRODUCT “STEMPEUCEL” APPROVED FOR CLINICAL TRIALS IN MALAYSIA

BioNexus Status company, Stempeutics Research Malaysia Sdn Bhd, a company under the Manipal Education & Medical Group have been granted an approval from Malaysian authorities to conduct clinical trials on stem cell based investigational new drugs (IND). With this achievement, Malaysia becomes one of the leading countries after USA to enter this phase of stem cell research.

18 April 2011

Menara Atlan, Kuala Lumpur, Malaysia

SIGNING CEREMONY AND JOINT PRESS CONFERENCE BETWEEN MAYBANK AND BIO-XCELL

An agreement of a RM250 million Commodity Murabahah Term Financing – Islamic Facility (CMTF-i) which will partly fund the completion of Phase 1 development of the Bio-XCell biotechnology ecosystem and park was signed at this event.

27 – 30 June 2011

Walter E. Washington Convention Center, USA

BIO WASHINGTON 2011

Deputy Prime Minister of Malaysia Yang Amat Berhormat Tan Sri Muhyiddin Yassin, officiated the BIO international exhibition in Washington alongside Maryland Governor Martin O'Malley and Biotechnology Industry Organisation (BIO) President and Chief Executive Officer James Greenwood on 28 June 2011.

At the event, BiotechCorp completed exercises which include collaboration announcements and exchange of documents between Lestari Pacific with Arter Biofuel Products Ltd and collaboration between Pristine Oil and Bio Protein. Bio-XCell also completed document exchanges with Agila Specialties Sdn Bhd and MOX-Linde Gases Sdn Bhd.

17 July 2011

Taylor's University, Selangor, Malaysia

MyBIO CARNIVAL 2011

MyBio Carnival 2011 provided a glimpse into the world of biotechnology and bioscience, educating children in an informal and interactive way. The event was jointly organised by Taylor's University, Malaysia Biotechnology Information Centre (MABIC) and Malaysian Biotechnology Corporation (BiotechCorp).

The carnival was launched by the Director General, Ministry of Science, Technology and Innovation YBhg Datin Paduka Professor Dr Khatijah Yusof.

26 July 2011

Forest Research Institute Malaysia (FRIM), Selangor, Malaysia

BIONEXUS PARTNERS NETWORKING SESSION

The event was co-organised together with Forest Research Institute Malaysia (FRIM) where the BioNexus Partners (BNP) Centre of Excellence was launched. A networking session was also organised between BNP laboratories, units under FRIM and industry participants and commercial entities in Malaysia.

29 – 31 July 2011

Kuala Lumpur Convention Centre, Kuala Lumpur, Malaysia

MYSTI-EXPO (MALAYSIA SCIENCE TECHNOLOGY AND INNOVATION EXPOSITION 2011)

The programme was organised by MOSTI to showcase the results of technology innovation developed by Malaysia in line with the Government's commitment in making technological innovation a common denominator of growth towards creating a sustainable innovation ecosystem.

12 August 2011

Prime Minister's Office, Putrajaya, Malaysia

ANNOUNCEMENT OF MALAYSIA'S LARGEST INVESTMENT FOR INDUSTRIAL BIOTECHNOLOGY BETWEEN CJ AND ARKEMA

Malaysia secured a RM2 billion investment for industrial biotechnology involving the establishment of the world's first green fermentation based L-methionine plant through a joint venture partnership between South Korea's CJ CheilJedang Corporation (CJ) and France's Arkema SA (ARKEMA).

The ceremony was witnessed by Prime Minister of Malaysia Yang Amat Berhormat Dato' Sri Najib Tun Razak, Deputy Prime Minister of Malaysia Yang Amat Berhormat Tan Sri Muhyiddin Yassin and Menteri Besar Terengganu Yang Amat Berhormat Dato' Ahmad Said.

12 – 14 September 2011

Shangri-La Hotel, Kuala Lumpur, Malaysia

11th FORBES GLOBAL CEO CONFERENCE

This annual event was attended by some 400 global CEOs, tycoons, entrepreneurs, up-and-comers, capitalists and thought leaders. BiotechCorp was part of the steering committee and was given a complimentary kiosk throughout the 3-day conference.

10 September 2011

Persada Johor International Convention Centre,
Johor Bahru, Malaysia

COMMENCEMENT CEREMONY FOR BIOCON – INDIA'S FIRST BILLION DOLLAR BIOTECHNOLOGY COMPANY IN BIO-XCELL ISKANDAR MALAYSIA

Biocon, Asia's premier biotechnology company, held the project commencement ceremony for its biopharmaceutical manufacturing, research and development facility in Bio-XCell, a custom-built biotechnology park and ecosystem in Iskandar Malaysia, Johor. The Chief Minister of Johor, Yang Amat Berhormat Dato' Haji Abdul Ghani Othman unveiled the plaque commemorating the project's initiation during this event.

12 October 2011

Kuala Lumpur Convention Centre, Kuala Lumpur, Malaysia

BIOMALAYSIA 2011 & 2011 PACIFIC RIM SUMMIT COUNTDOWN PRESS CONFERENCE

This media engagement exercise provided a comprehensive overview of BioMalaysia 2011, unveiling the prestigious speaker line-up and the announcement of esteemed sponsors for BioMalaysia 2011. BiotechCorp CEO, Dato' Dr Mohd Nazlee Kamal delivered the opening remarks, followed by presentation on BioMalaysia 2011 by Denise Ang, Group Project Director, PROTEMP Exhibitions Sdn Bhd.

10 November 2011

Luna Bar, Menara Pan Global, Kuala Lumpur, Malaysia

MEDIA APPRECIATION NIGHT 2011

Media Houses and journalists were presented with trophies, certificates and prizes at a red carpet dinner for their meritorious work and effort in raising public awareness and interest in biotechnology, showcasing developments in the industry and profiling Malaysia as a biotechnology hub, in line with targets set under the National Biotechnology Policy. The event was attended by 28 media personnel and 13 senior management staff from BiotechCorp and Bio-XCell.

21 – 23 November 2011

Kuala Lumpur Convention Centre,
Kuala Lumpur, Malaysia

BIOMALAYSIA 2011 & 2011 PACIFIC RIM SUMMIT

This was the 9th consecutive premier biotechnology event for BiotechCorp. It was co-organised with the 6th Pacific Rim Summit on Industrial Biotechnology and Bioenergy which was held for the first time outside of the US. The event attracted over 7,400 participants.

27 December 2011

UiTM Puncak Alam, Selangor, Malaysia

BIONEXUS PARTNERS NETWORKING SESSION

The launch of BioNexus Partners (BNP) Pharmacogenomics Center (PROMISE) was officiated by Deputy Prime Minister of Malaysia Yang Amat Berhormat Tan Sri Muhyiddin Yassin, in conjunction with the BioNexus Partners (BNP) networking session in Universiti Teknologi Mara (UiTM). The Center has successfully brought Malaysia to international heights with its achievement of mapping the Malay ethnic genome for the first time, placing Malaysia at par with other developed countries.

2011 Operational Review

POLICY & REGULATORY ENGAGEMENT

Embarking into Phase 2 of the National Biotechnology Policy (NBP), BiotechCorp continues its active role in supporting the formulation of a progressive regulatory agenda for the biotechnology sector in accordance with Thrust 7 of the NBP which emphasises the importance of establishing a solid, balanced and supportive regulatory framework for the development of biotechnology in Malaysia. Continuous engagement with all relevant regulatory authorities is necessary to ensure that the foundation laid down during Phase 1 of the NBP in creating a conducive regulatory environment will be further enhanced to support the commercialisation phase of the NBP.

Focus Areas:

- Biosafety
- Access & Benefit Sharing
- Intellectual Property
- Pharmaceutical Regulations
- International Accreditation

Key Results

Issue / Activity	Results
Biosafety Framework	<ul style="list-style-type: none">• The Biosafety (Approval and Notifications) Regulations 2010 came into force in November 2010 whereby detailed procedures and guidelines in regulating activities involving Living Modified Organisms (LMOs) were established.• In 2011, the newly minted Biosafety Regulations were put to practice through applications for approvals and also notifications by the industry and research fraternity.• BiotechCorp continued to provide regulatory advisory support for the industry and also investors in submitting biosafety applications/ notifications.• BiotechCorp also provided strategic input to the Ministry of Natural Resources and Environment on the government commitment to the “Nagoya – Kuala Lumpur Supplementary Protocol on Liability and Redress” to the Cartagena Protocol on Biosafety which was adopted during the Conference of the Parties to the Convention on Biological Diversity at its 10th meeting on 29 October 2010 in Nagoya, Japan.

Issue / Activity	Results
<p>Access & Benefit Sharing (ABS)</p>	<ul style="list-style-type: none"> • The Conference of the Parties to the Convention on Biological Diversity in 2010 saw the finalisation and adoption of the “Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilisation to the Convention on Biological Diversity”. The Nagoya Protocol is an international agreement which aims at sharing the benefits arising from the utilisation of genetic resources in a fair and equitable way, including by appropriate access to genetic resources and by appropriate transfer of relevant technologies, taking into account all rights over those resources and to technologies, and by appropriate funding, thereby contributing to the conservation of biological diversity and the sustainable use of its components. • It is understood that domestic laws on Access and Benefit Sharing (ABS) are currently in the formulation stage and much of the anticipated law will provide a clear window for commercial and R&D collaboration initiatives involving biological materials.
<p>Intellectual Property (IP)</p>	<p>BiotechCorp continues to work towards strengthening the IP framework in Malaysia through the following measures:</p> <ul style="list-style-type: none"> • Contract Patent Examiners <p>The Intellectual Property Corporation of Malaysia (MyIPO) early this year introduced formal provisions for expedition of examination for patent and trademark applications through amendments to the Patents Regulations 1986 and Trade Marks Regulations 1997 via the Patents (Amendment) Regulations 2011 and Trade Marks (Amendment) Regulations 2011. This came into force on 15 February 2011. BiotechCorp continues to fund 10 patent examiners on contract basis in 2011 to assist MyIPO in reducing patent pendency and to ensure that the target timelines as introduced in the new regulations are met to support and spur the creation of more innovations.</p> • Amendments to the Patents Act 1983 <p>BiotechCorp continues its engagement with MyIPO with regards to amendments to the Patents Act 1983 particularly in relation to provisions relating to biotechnology inventions as they are being drafted. BiotechCorp anticipates that the proposed amendments will be put forth for stakeholders’ consultation in early 2012 before being tabled in Parliament.</p>

Issue / Activity	Results
Intellectual Property (IP)	<ul style="list-style-type: none"> • Budapest Treaty for the Deposit of Microorganisms for the Purposes of Patent Procedure A National Seminar on the Budapest Treaty was jointly organised by MyIPO in collaboration with the World Intellectual Property Organisation (WIPO) in September to create awareness among stakeholders on the workings and operations of the Budapest Treaty. BiotechCorp remains engaged with MyIPO in its efforts for Malaysia to accede to the Budapest Treaty. • Capacity Building Initiatives Various capacity building initiatives were also carried throughout the year including workshops and regulatory updates for internal and external customers.
Pharma Regulations	<p>Pharmaceuticals are regulated by the National Pharmaceutical Control Bureau (NPCB) of the Ministry of Health under the Control of Drugs and Cosmetics Regulations 1984 which empowers the NPCB to implement the registration of:</p> <ol style="list-style-type: none"> a. Scheduled poisons/NCE/Biotechnology b. Non-scheduled poisons (over the counter) c. Traditional Medicines and Health Supplements d. Veterinary Products e. Cosmetics (<i>Registration of cosmetics was replaced by the Notification Procedure with effect from 1 January 2008.</i>) <p>In 2011, the following directives / guidelines were issued and/or revised:</p> <ul style="list-style-type: none"> • Directive on Data Exclusivity (DE) (28 February 2011) • ASEAN Labelling Requirements (14 April 2011) • Drug Registration Guidance Document (DRGD) (September 2011) • Classification of Decision Tree (November 2011) <p>In 2011, BiotechCorp completed work on its regulatory guidebook entitled “EU and US Pharmaceutical Regulations: A Guide for Malaysian Companies” which provides a useful overview of the regulatory requirements for access into the EU and US markets. It also will enable Malaysian companies to better plan and implement appropriate regulatory strategies for successful product placement in those markets.</p> <p>Throughout 2011, Malaysia continued to play an active role in harmonisation efforts through the ASEAN Consultative Committee for Standards and Quality (ACCSQ) Pharmaceutical Product Working Group (PPWG), the Traditional Medicines and Health Supplement Product Working Group (TMHS PWG) as well as the Medical Devices Product Working Group (MDPWG).</p>

Issue / Activity	Results
Pharma Regulations	<p>In 2011, BiotechCorp participated in the Technical Working Group (TWG) for pharmaceutical, traditional medicines & health supplements and medical devices and provided industry input for the harmonisation of regulations in the three sectors in ASEAN. Through the ASEAN Consultative Committee in Safety and Quality (ACCSQ) Product Working Group (PWG) participation, we were able to keep track on the work programme progress and the time frame targeted in harmonising standards and reducing technical barriers towards a single market by 2015.</p>
International Accreditation (GLP)	<p>In relation to GLP, Malaysia's efforts in gaining full adherence to the Organisation for Economic Co-operation and Development (OECD) Mutual Acceptance of Data (MAD) system showed great results.</p> <p>For some background, Malaysia was made a provisional adherent to the Organisation for Economic Co-operation and Development (OECD) Mutual Acceptance of Data (MAD) system in 2008. The year 2010 saw the continued implementation of the OECD GLP framework, which is applicable to non-clinical health and environment safety studies. The Government then designated the National Pharmaceutical Control Bureau (NPCB) and Department of Standards Malaysia (Standards Malaysia) as the Compliance Monitoring Authority (CMAs) for Malaysia. BiotechCorp has been working closely with the CMAs by organising programmes and capacity building initiatives for the CMAs and also the industry in order to ensure that Malaysia is fully ready for the On Site Evaluation and Mutual Joint Visit by the OECD inspectors in order to achieve full adherent status to the OECD MAD system.</p> <p>In 2011, in preparation for the On Site Evaluation/ Mutual Joint Visit (OSE/MJV) by OECD, the following Compliance Programmes were conducted by the CMAs:</p> <ul style="list-style-type: none"> • On 5-7 April 2011, both the CMAs attended the OECD Working Group (WG) Meeting to present to the OECD WG on Malaysia's progress in the GLP Compliance Programme and our readiness for the MJV. Based on the convincing progress made by Malaysia, the WG agreed that the MJV shall take place in November 2011 • On 6-10 June 2011, BiotechCorp facilitated Standards Malaysia's participation in an On Site Evaluation exercise by OECD inspectors to evaluate Greece as part of the run up to Malaysia's inspection by OECD • On 13-14 June 2011, BiotechCorp assisted the CMAs in the workshop on Compliance of Computerised System to OECD-GLP held at Bayview Beach Resort in Penang • Beginning in August 2011 until October 2011, a mock inspection was conducted on the test facility chosen for the MJV (i.e. SIRIM Berhad) for its area of expertise in toxicology and mutagenicity

Issue / Activity	Results
International Accreditation (GLP)	<ul style="list-style-type: none"> On 14 - 19 November 2011, the Mutual Joint Visit (MJV) Inspection by the OECD team of inspectors commenced. They were led by Dr Andrew Gray (Medicines & Healthcare products Regulatory Agency, United Kingdom) with two other inspectors namely Dr Christoph Moor (Federal Office for the Environment, Switzerland) and Dr Hitoshi Someya (the Pharmaceutical & Medical Device Regulatory Agency, Japan) and Ms. Wakako Horiki an observer from Environment Health and Safety Division, Environment Directorate, OECD, Paris. Based on all the initiatives which have been carried out in support of the CMAs, BiotechCorp remains optimistically hopeful that Malaysia will achieve its aim to become a full-adherent to the OECD MAD system in 2012.

Next Steps for Policy and Regulatory Engagement:

As the Malaysian biotechnology industry moves into the next phase of “Commercialising Science to Business”, below are some areas that need to be addressed:

Biosafety and Access and Benefit Sharing (ABS)

- BiotechCorp shall continue our healthy engagement with the Biosafety Department of the Ministry of Natural Resources and Environment (MoNRE) in the area of biosafety. We will also participate in the consultative process towards the promulgation of the ABS law and will engage with MoNRE to provide awareness to the industry on the anticipated domestic ABS law. MoNRE’s consultation with stakeholders on the draft ABS law is expected to be carried out in 2012.

Intellectual Property

- It is envisaged that there will be an increase in the number of IPs registered in the country and we will continue to provide awareness and advice to the industry on strategic IP management. Moving forward, focus shall be given to areas such as valuation and collateralisation of IP.

Pharma Regulations

- BiotechCorp will continue to contribute its input to the development of pharmaceutical regulations including harmonisation of regulatory framework for ASEAN region. Moreover, leveraging upon our strong relationship with regulatory stakeholders, we will provide continuous and constructive industry perspective input to drive healthcare biotechnology development.

BUSINESS INTELLIGENCE

Timely availability of key business information and knowledge is critical for businesses to maintain a leading pace in today's competitive marketplace. Recognising this need, a new department called Business Intelligence (BI) was established in 2011 under the Strategic Planning Division.

Focus Areas:

1. Providing accurate and timely market and industry intelligence to BiotechCorp's internal stakeholders for better strategy development, faster decision making, targeted government/industry engagement, and impactful interventional/initiatives implementation.
2. To be a one-stop-center for information on biotechnology industry for both internal and external stakeholders and to facilitate networking/collaboration between these parties.

Activity	Results
<p>Providing market and industry intelligence to internal stakeholders</p>	<p>BI published Quarterly Biotechnology Industry Reports and Analysis for each industry sector, with a total of four quarterly reports being published in 2011, as follows:</p> <ul style="list-style-type: none"> • Realised investment and revenue generation gaps within BiotechCorp's 2011 Approved Business Plan as compared against the National Biotechnology Policy (NBP) Phase II targets; • Positioning Malaysia in attracting global biotechnology Foreign Direct Investment (FDI); • Market access for Malaysian biotechnology companies; and • International linkages and specific foreign companies with significant business opportunities for Business Development and Investment (BDI) team to approach for potential FDI and collaborations. <p>A total of 12 Senior Management Alerts were issued in 2011, including information on Malaysia's gross domestic product (GDP) growth, shifts in Malaysian utility tariffs that could impact investment, potential platform technologies and their prospective opportunities, potential FDI clients and collaboration opportunities with foreign partners, as well as significant developments within the biotechnology industry with strong relevance to Malaysia. The alerts are a mechanism developed to alert the Senior Management about important developments within the biotechnology industry in a timely manner.</p>

Activity	Results
<p>Industry updates and market developments to external stakeholders through published materials</p>	<p>In 2011, BI has achieved the stretched target with the publication of three articles in regionally and globally significant periodicals, as follows:</p> <ul style="list-style-type: none"> • Malaysia as a destination for foreign biotechnology investments (Asia Pacific Biotech News, September 2011); • Australia-Malaysia: Forging ahead (Roxy Media, November 2011); and • Biotech investments to target Malaysia, says BiotechCorp (Malaysian Reserve, November 2011). <p>BI also publishes the BioMonthly, a monthly publication prepared with the intention to provide stakeholders with information on BioNexus Status companies, economy and financial outlook, and selected developments on focus areas in Agriculture, Healthcare and Industrial Biotechnology in Malaysia, as well as other parts of the world. A total of twelve BioMonthly issues have been published in 2011.</p> <p>BI maintained a weekly news update called BioNews, with 52 issues released for the year 2011, in order to keep stakeholders up-to-date with the latest on-goings in the biotechnology industry.</p>
<p>Creating a platform for engagement in the promotion of the Bioeconomy Initiative Malaysia (BIM)</p>	<p>BI has been directly involved since the inception of this master plan, and has been instrumental at facilitating the groundwork for the BIM. BIM is the framework for the nation to develop a high-income bioeconomy through a sustainable ecosystem of research and development (R&D) and commercialisation in the areas of agriculture, healthcare and industrial biotechnology by 2020.</p> <p>One of the key highlights of this drive was the launch of the BIM at BioMalaysia 2011 by the Prime Minister of Malaysia Yang Amat Berhormat Dato' Seri Najib Tun Razak. Moving forward, BI will continue with its contribution and involvement in the BIM, in particular the BIM workshop and lab in March 2012, which will be held collaboratively with the Ministry of Science, Technology and Innovation (MOSTI).</p>
<p>One-stop-center for information and facilitate networking/collaboration between all stakeholders</p>	<p>Provided content for presentation to Cluster Working Groups/Senior Management, where a total of six contents items were provided as follows:</p> <ul style="list-style-type: none"> • Proposed Collaboration with Chungbuk Bio Valley Development Bureau; • Proposed collaboration with Chungcheong Leading Industry Office in Korea for Human Capital Internship Programme; • Proposed collaboration with Korean Biotechnology Industry Organisation for Human Capital Internship Programme;

Activity	Results
One-stop-center for information and facilitate networking/collaboration between all stakeholders	<ul style="list-style-type: none"> • Proposed collaboration with Insect Biotech Co. Ltd for Human Capital Internship Programme; • Implementation Council Meeting Funding Proposal; and • Proposed Malaysia and Italy Collaboration in Biotechnology.
Smart partnerships	<p>In line with Malaysia entering into Phase 2 of the National Biotechnology Policy entailing commercialisation, there is an immediate need for the BiotechCorp Resource Centre to expand and collaborate with relevant organisations/libraries for information sharing to assist in successful implementation. Acknowledging the importance of close collaborations and information sharing, BI had actively engaged and initiated several smart partnerships in the year 2011 with several important business intelligence/knowledge centers in the country, notably Petronas Research Center, and Knowledge Center@Bursa, Bursa Malaysia. The collaborations primarily aim to fulfill the educational, intellectual, informational and social aspirations of users, through cooperative provision, superior quality library resources and services made available to the users.</p>

Next Steps for Business Intelligence:

As part of efforts to ensure that BiotechCorp remains relevant to its stakeholders moving forward, Business Intelligence will be undertaking the following activities:

- In 2012, Business Intelligence will be renamed Corporate Innovation Strategy to further reflect the work to be undertaken in the ensuing years; and
- Continuous focus will be placed in charting the direction of biotechnology industry, to encourage innovation and assist commercialisation of local biotechnology industry through coordination and collaboration with relevant agencies.

CAPABILITY DEVELOPMENT

Organisational or industry success often depends on dynamic human capital resources. Innovation, knowledge and capabilities have been the central in driving industry performance whilst, entrepreneurial and managerial knowledge have played important roles in spurring the industry forward. In view of this, BiotechCorp has aimed to equip people within the biotechnology industry with the latest insights and competencies to help spur the industry.

Focus Areas

- Developing skilled, knowledgeable and competent human capital to ensure adequate supply of human capital for the biotechnology ecosystem.
- Facilitating capability for those who possess the entrepreneurial and managerial knowledge to drive the industry.

Key Results

Issue/Activity	Results
Biotechnology Entrepreneurship Special Training (BeST) Programme	<p>BeST is a part of BiotechCorp's approach to develop and nurture skilled talent within the industry in a bid to ensure a sustainable pool of human capital for Malaysia.</p> <ul style="list-style-type: none"> • BeST has expanded its wings to the universities where it serves as one of the finishing school programmes at the biotechnology and life sciences faculties. The industry attachment component of BeST has been intensified into various critical focus areas of the industry.
BeST Big Ideas 2011	<ul style="list-style-type: none"> • BeST Big Ideas 2011 was held to inculcate drive among the BeST trainees in a quest for big ideas and to provide meaningful and strategic actions to realise the ideas. This programme enhanced BeST trainees' research skills, organising and managing projects. Ideas generated by the BeST trainees will become one of the sources of references for BiotechCorp, particularly Capability Development Department (CDD) in developing human capital in biotechnology.
Graduate Returning Programme	<p>BiotechCorp seeks to provide returning overseas graduates in biotechnology/life sciences with the opportunity to connect with the overall Malaysian biotechnology landscape and at the same time explore job opportunities available within the Malaysian biotechnology industry.</p>

Issue/Activity	Results
Graduate Returning Programme	<ul style="list-style-type: none"> • The 2 day programme provides graduates with sufficient familiarity of key government initiatives and policies that have been formulated and implemented in facilitating the transformation of Malaysia towards a high income economy by 2020. Graduates will also be provided with the opportunity to be updated on latest developments on the global, regional and Malaysian biotechnology industry and be exposed to exciting opportunities in store for them. • The programme will eventually provide graduates with the latest information on job opportunities within public and private sectors thus increasing their chances of obtaining a job at the earliest possible opportunity.
MyBio Carnival 2011	<p>This programme is targeted at creating biotechnology awareness by bringing together all stakeholders within the industry.</p> <ul style="list-style-type: none"> • MyBio Carnival 2011 was held in two locations in the country including Kuala Lumpur and Kedah. • Two collaborative programmes between BiotechCorp together with Malaysian Biotechnology Centre (MABIC) and Taylor's University College were held at Taylor's University, Subang. • Collaboration between BiotechCorp, Malaysian Biotechnology Centre (MABIC), Northern Corridor Implementation Authority (NCIA) and other Public/Private Learning Institutes was held at AIMST University, Bedong, Kedah.
Specific Training in Critical Areas (STCA)	<p>STCA comprises of a blend of theory and practical teaching sessions and support from leading industry experts for trainees to increase their marketability and industry savviness. This is one of the initiatives under the BeST Extension of Training Scope to further equip the BeST trainees with skills and competencies in Specific Training in the required Critical Areas:</p> <ul style="list-style-type: none"> • BioProcessing • Analytical Lab Instrumentation • Plant Tissue Culture • Herbal Plant Extraction and Production • Specialised Technical Seed Planting and Growing • BioMolecular Analytical Lab Instrumentation

Issue/Activity	Results
<p>Training at Real-Time Facilities (TRTF)</p>	<p>TRTF combines prior obtained theoretical knowledge with actual work experience to produce a skilled professional who is capable of exercising independent judgment and who subscribes to the highest standards of professional conduct.</p> <p>This programme will be a critical part of building the Biotechnology workforce by increasing skill levels and preparing BeST trainees for the challenge of higher level biotechnology careers from ground-up.</p> <p>The TRTF programme is carried out for two years and BeST graduates will undergo training and exposure on the following areas:</p> <ul style="list-style-type: none"> • Technical Processes and Operations • Quality Management and Control • Supervisory and Leadership Skills • Laboratory Testing and Research • Safety, Health and Environment

Next Steps for Capability Development:

In meeting human capital demand moving forward, BiotechCorp will focus on the following areas:

- BeST will expand its scope to create a customised programme that is unique and tailored to universities' specialisations. This tailored programme will ensure that the graduates capture the essence of biotechnology basics and enhance themselves in line with industry requirements.
- The BeST Diploma and Post Degree levels will be examined at greater depth to ensure the needs of human capital at every position level in the biotechnology industry are fulfilled.
- An apprenticeship scheme will be offered for school-leavers who have scored good grades in the Sijil Pelajaran Malaysia examination and those who are inclined to be technologists. Those who have completed apprenticeships will be offered permanent employment by participating biotechnology companies and also have the opportunity to further their degree later on via scholarship.
- BiotechCorp also expects to develop an advanced programme to compliment the BeST Alumni competencies to ensure that the human capital pool in the biotechnology industry possesses adequate technical as well as soft skills and executive capabilities.

AGRICULTURAL BIOTECHNOLOGY

As part of its commitment to drive industry development, BiotechCorp has been engaged in enhancing the economic value of the Malaysian agriculture industry through encouraging the adoption of cutting-edge biotechnology tools, innovation and commercialisation.

To facilitate this achievement, the Agricultural Biotechnology framework is based on the Third National Agricultural policy (NAP3) and the National Policy on Biological Diversity (1998), and is subdivided into the following key sectors:

Focus Areas:

1. Natural products biotechnology which includes extraction, standardisation, product development and validation (including pre-clinical) studies for nutraceuticals, cosmeceuticals, food ingredients, functional food, pharmaceuticals/botanical drugs and dietary supplements.
2. Crops biotechnology which includes planting materials (including, tissue culture and seeds) development and production, biofertiliser/soil enhancers, bio-controls/crop protection encompassing ornamental, food and industrial crops.
3. Livestock biotechnology which includes the breeding of goats, cattle, poultry etc, utilising biotechnology tools, e.g. artificial insemination, embryo transfer, etc. Livestock biotechnology will also include the research, development and commercialisation of livestock related health products and feed/feed additives.
4. Aquaculture biotechnology includes the breeding of marine and fresh water fishes (tilapia, grouper, sturgeons, etc), crustaceans (shrimps, oysters, lobsters, crabs) as well as the cultivation of algae for feed and other downstream activities. Aquaculture biotechnology will also include the research, development and commercialisation of aqua related health products and feed/feed additives.

Key Results

Issue/Activity	Results
Biofertiliser	<p>In 2011, Biofertiliser companies continued to expand their market share in the Asean/Asian region where products were exported to Indonesia, Vietnam and India. This included specialty products meant for different applications such as root enhancement and pest control.</p> <p>The biofertiliser sector contributed the largest revenue among the BioNexus Status companies, at approximately RM 193.4 million.</p> <p>Due to market demands and the development of new product lines, biofertiliser companies continued to expand through land acquisitions and production facilities.</p>

Issue/Activity	Results
Tissue culture/micro propagation	<p>In 2011, other than supplying tissue cultured crop plants, tissue culture companies have strived to increase their market share especially through the supply of tissue cultured ornamental plants to landscaping projects in Malaysia and in the Asean region.</p>
Seed Production	<p>In 2011, progress was achieved to transform Malaysia into a tropical seed production hub using marker assisted selection techniques.</p> <p>Under Malaysia's Economic Transformation Programme's Agriculture National Key Economic Area (NKEA) entry point project (EPP) 4, Green World Genetics Sdn Bhd (a BioNexus Status company) has successfully signed a Collaboration and Scientific Services Agreement with the Malaysian Agricultural and Research Development Institute (MARDI)'s Centre for Molecular Marker Development and Validation to expand their development and validation of tropical hybrid seed production utilising molecular markers. The crops will include watermelon, chillies, okra, and corn varieties (both sweet and feed corn varieties).</p>
Livestock	<p>BiotechCorp continues to encourage the establishment of key projects towards enhancing the development of nucleus/multiplier farms in Malaysia, where two BioNexus Status companies namely Kris Biotech Sdn Bhd and Falcon Livestock Sdn Bhd have secured contracts with the Department of Veterinary Services (DVS) to provide breeding services using artificial reproduction systems to local cattle and goat farmers, under the EPP 5 initiatives (NKEA Agriculture).</p>
Aquaculture	<p>Since 2010, the Aquaculture sector in Malaysia has been growing exponentially, evident not only in the number of BioNexus Status companies, but also in attracting substantial investments into this (aquaculture biotechnology) sector.</p> <p>Among the key achievements is the appointment of JEFI Aquatech Resources Sdn Bhd, a BioNexus Status company, as an anchor company under EPP 4 (NKEA Agriculture) with a total approved investment of RM375 million.</p>

Projects Carried Out in 2011

In 2011, 15 companies were awarded the BioNexus Status in the various sub-sectors within the Agriculture Biotechnology sector, as follows:

No	Company	Origin (FDI / DDI)	Activity & Achievements
1	Biogrowth Sdn Bhd	30% Singapore: 70% Malaysia	This Johor based company is involved in the commercialisation of high quality fruits, orchids, forestry tree species and ornamental plantlets production through tissue culture and its related research and development (R&D) activities. The company is looking to expand its market in the Asean region starting with Laos.
2	Genomic Biotech Sdn Bhd	DDI	This Johor based company is involved in the commercialisation of high quality planting materials production through tissue culture techniques and will undertake related R&D activities. The company is currently producing bananas to supply to their parent company which is involved in banana plantations.
3	Falcon Livestock (NS) Sdn Bhd	DDI	This Negeri Sembilan based company is involved in the commercialisation of livestock breeding utilising biotechnology tools and will undertake related R&D activities. The company has been appointed as an artificial reproduction services provider through DVS under EPP 5 for DVS related farms.
4	Bionestro Sdn Bhd	DDI	This Perak based company is involved in the commercialisation of prawn fry production through its integrated Specific-Pathogen Free (SPF) facility and will undertake its related R&D activities. The company will supply their post larvae (PL) to their parent company Manjung Aquatic Sdn Bhd as well as to contract farmers to ensure the production of quality shrimps.
5	Nu-Trino Synbio (M) Sdn Bhd	DDI	This Selangor based company is involved in the commercialisation of animal feed additives and its related R&D activities. Its technology is licensed from Universiti Putra Malaysia (UPM). The company has commenced construction of its facility in the second quarter of 2011.

No	Company	Origin (FDI / DDI)	Activity & Achievements
6	Vigor Agribiotech Solutions Sdn Bhd	30% Singapore: 70% Malaysia	This Johor based company is involved in the commercialisation of microbial based biofertiliser for agricultural applications and related R&D activities. The company is currently planning to expand its production to penetrate the Borneo market.
7	JQ Biotech Sdn Bhd	DDI	This Sarawak based company is involved in the research, development and commercialisation (R, D&C) of local microbial based biofertilisers for the oil palm industry.
8	Darvel Bay Sdn Bhd	DDI	This Sabah based company is involved in the commercialisation of marine fish and its fingerlings and will undertake related R&D activities. The company is collaborating with Yayasan Sabah to supply quality fingerlings for farmers under the Yayasan Sabah community farming programme.
9	Persona Kosmetik Sdn Bhd	DDI	This Selangor based company is involved in the commercialisation of cosmeceutical products produced from local herbs and medicinal plants using advanced bioscience technology and will undertake related R&D activities.
10	AquaGems BioX Sdn Bhd	DDI	This Penang based company is involved in the commercialisation of Arowana and other ornamental fish species utilising biotechnology techniques such as molecular markers and will undertake related R&D activities to ensure the sustainability of Malaysia's rare and endangered Golden and Nami arowana varieties.
11	Algae International Sdn Bhd	55% Malaysian 45% Australian	This Negeri Sembilan based company which is a Technofund graduate is involved in the cultivation and commercialisation of Spirulina as biomass using the Fluid Bed Method and will undertake related R&D activities.
12	Bio-Ferti Sdn Bhd	DDI	This Johor based company is involved in the commercialisation of tissue culture products and will undertake related R&D activities. The company is also involved in the provision of contract research services for tissue culture protocol development.

No	Company	Origin (FDI / DDI)	Activity & Achievements
13	KHL Herbal Biotech Sdn Bhd	DDI	This Kuala Lumpur based company is involved in the commercialisation of natural products from herbal extracts, initially from Panax ginseng and will undertake related R&D activities.
14	RE Millennium Sdn Bhd	DDI	This Johor based company is involved in the commercialisation of marine fish and its fingerlings and will undertake related R&D activities.
15	Wibawa Biotech Sdn Bhd	DDI	This Perak based company is involved in the commercialisation of mono-sex tilapia fish and fry and will undertake related R&D activities. The company is working closely with their counterparts in Thailand to enhance their brood stock development and feed improvement.

Next Steps for Agricultural Biotechnology:

Moving forward, BiotechCorp intends to carry out the following activities:

- To position the Malaysian agriculture biotechnology sector as the key driver for Malaysia to become a global high income nation, through the establishment of a sustainable ecosystem for R&D and commercialisation in the area of agriculture, leveraging on all existing tropical agricultural resources.
- To address the national feed/food security and safety through the various EPPs under the NKEAs of the ETP, where key sectors such as aquaculture, livestock and the development of genetic materials are supported and facilitated.
- To continue to assist/support multi-national companies, especially those in the agri-biotech sector to establish collaborations, joint-ventures, and investments in the Malaysian agriculture sector.
- To continue nurturing local (both existing and future) BioNexus companies to expand their market share in Malaysia and globally through strategic marketing strategies. This will include providing funding avenues for expansion and product development to meet international requirements as well as key linkages to the global platform.

HEALTHCARE BIOTECHNOLOGY

As the global economy is clearly on the mend in 2011, this has impacted the healthcare biotechnology in Malaysia. The medical/healthcare segment remained to be one of the most lucrative segments for the global biotechnology market, generating approximately 70% of the market's overall revenue.

BiotechCorp continues to be strategically focused on approved investments – targeting local, foreign and multinational/global companies, knowledge workers and creating revenue potential for revenue generation efforts. Action plans drawn are set to intensify the nurturing efforts and business development initiatives, with an objective to maximise results whilst maintaining a competitive advantage our regional competitors.

In terms of focus areas, market projections have been positive for biopharmaceuticals – both for biosimilars and biobetters, Contract Manufacturing Organisations (CMO), medical devices and Contract Research Organisations. The pharmaceutical industry remains attractive to foreign investment, due to growth in demand driven by the emerging economies.

Focus Areas

1. Biopharmaceuticals
2. Pharmaceuticals
3. Contract Manufacturing Organisation/Contract Research Organisation
4. High Value Medical Devices/In-Vitro Diagnostics

Key Results

Issue/Activity	Results
Total Capital Investment	<p>In 2011, BDI Healthcare (BDI-H) successfully engaged a total of 26 projects approved with total capital investment amounting to RM2.46 billion. Focus was given to multinational companies and companies from emerging markets within BDI Healthcare's areas of interest. The biggest chunk of investment came from the United States of America (USA) with 67% of the total capital investment. Local investment was the second biggest contributor at 20.8%, followed by India at 8.4%.</p> <p>BiotechCorp is the principal agency for attracting foreign and domestic direct investments in biotechnology to Malaysia. BiotechCorp provides the BioNexus incentives, in addition to facilitating biotech companies in obtaining customised incentives from Economic Council (EC) and Malaysian Industrial Development Authority (MIDA) incentives. In 2011, there were two approved Healthcare projects for BioNexus Status, two approved projects from MIDA and one customised incentives from EPU (under the Public-Private Partnership initiative).</p>

Issue/Activity	Results
Job creation	<p>The total capital investment of approved projects has resulted in the creation of employment opportunities for 712 knowledge workers in 2011.</p>
Nurturing of healthcare biotech companies	<p>BDI Healthcare is mandated to nurture local companies' business growth, in terms of revenue generation and contribution to the nation's gross domestic product (GDP).</p> <p>We have nurtured 47 Healthcare Biotechnology companies, mostly comprising of BioNexus Status companies in generating revenue of RM180.76 million in 2011. As at 31 December 2011, there are 72 BioNexus Status companies in Healthcare Biotechnology.</p>
Foreign Direct Investment (FDI)	<p>In 2011, BDI Healthcare targeted specific global multinational corporations (MNCs) to secure foreign direct investments and projects. As a result of this initiative, significant foreign biopharmaceuticals and pharmaceutical companies with significant investment of RM2.456 billion have started to set up their operations in Malaysia.</p> <p>Part of the strategy for BDI Healthcare in attracting Foreign Direct Investments (FDI) is by targeting multinational corporations (MNCs) from both emerging and established markets. For example, on 17 June 2011, AMC Life Sciences in collaboration with Johns Hopkins Medicine and Royal College of Surgeons, Ireland announced a world class medical centre and university in Kuala Lumpur. The Perdana University Initiative is part of the Kuala Lumpur Academic Medical Centre (AMC) which is a proposed development for a centre of excellence for medicine in Malaysia. The AMC will be a custom built medical campus primarily comprising of a 600-bed private hospital, a research centre, and Perdana University - incorporating an undergraduate medical programme run by RCSI and a graduate entry programme run by Johns Hopkins Medicine, Baltimore, US.</p> <p>The AMC is a high profile project for Malaysia, being one of its first public private partnerships with the Government. The project will cost over €500M. The overall project was launched under the patronage of the Prime Minister of Malaysia, Yang Amat Berhormat Dato' Seri Najib Tun Razak in November 2010.</p>

Issue/Activity	Results
<p>Collaboration with other agencies and leveraging on their expertise e.g. MIDA, PEMANDU, State Agencies (JSIC) Performance, Management and Delivery Unit (PEMANDU)</p>	<p>Working closely with other sister agencies such as Malaysian Industrial Development Authority (MIDA) has helped BDI Healthcare in closing several high impact projects in the recent years. BDI Healthcare continues to leverage on their manufacturing expertise and attractive incentives, specifically for high capital investment manufacturing projects. As for State Agencies such as JSIC and NCIA, BDI Healthcare will need to work closely for land availability and fit-out business models to be proposed to potential investors and corporations.</p>
<p>PEMANDU Healthcare NKEA Medical Devices Entry Point Projects (EPPs)</p>	<p>In 2011, the Ministry of Health in collaboration with PEMANDU has announced the addition of seven (7) new EPPs under the Healthcare NKEA. They are:</p> <ul style="list-style-type: none"> • EPP 7: Tap into the fast-growing In-Vitro Diagnostics (IVD) market through academic-industry partnerships • EPP 8: Create next generation of single-use devices (SUD) • EPP 9: Build hub for high-value medical device contract manufacturing • EPP 10: Create Malaysian clinical devices champions • EPP 11: Orchestrate contract manufacturing supply chain • EPP 12: Medical equipment refurbishment hub • EPP 13: Build medical hardware and furniture cluster <p>PEMANDU labs are good platforms for BDI Healthcare to propose potential projects for the Government's uptake and implementation. In addition, the Medical Devices EPPs are seen as a significant opportunity, in view of the ASEAN's Medical Devices Harmonisation that will be implemented soon. There is increasing importance of diagnostics for monitoring, testing and predicting as global healthcare shifts from 'sickness' to 'wellness'.</p>

Projects Carried Out in 2011

No	Company	Origin	Nature of Business
1	Agila Specialties (M) Sdn Bhd	India (FDI)	Established Sterile Formulation, Fill & Finish Facility and Biosimilars Project.
2	Esclapeus Genomics Sdn Bhd	USA (FDI)	Commercialisation of genomic-based services and biomarkers for personalised medicine.

No	Company	Origin	Nature of Business
3	B-Crobes Sdn Bhd	Taiwan/Australia (FDI)	Commercialisation of bacteria strain BCMC-New Strain for management of hypercholesterolemia.
4	Aurigene Discovery Technologies (M) Sdn Bhd	India (FDI)	Provision of analytical research and development (R&D) services for drug discovery and development.
5	Cheminnova Remedies Pvt Ltd	India (FDI)	Manufacturing of processed Active Pharmaceutical Ingredients (API) in the form of granulates.
6	AMC Life Science-Perdana Life Sciences Research Centre &Technopark (Johns Hopkins)	USA (FDI)	Research program collaboration between Johns Hopkins with Perdana University directed for discovery and translation of prevention and treatment strategies - It includes translational and clinical research facilities and capabilities.
7	GeneNews Diagnostics Sdn Bhd	Canada (FDI)	Research, development and commercialisation (R,D&C) of blood-based diagnostics for the detection of colorectal cancer.
8	Aseacyte Sdn Bhd	United Kingdom (FDI)	Joint venture/partnership with Avanticell, Cancer Research Initiatives Foundation (CARIF) and Sime Darby Bhd in chemical analysis to complement company's cell-based analysis, to form an integrated service for the evaluation of natural products as potential new therapeutics.
9	Eurocor Asia Sdn Bhd	Singapore (FDI)	Manufacturing of Cardiac stents (Percutaneous Trans-luminal Coronary Angioplasty and Percutaneous Trans-luminal Angioplasty Catheters).
10	Opto Circuits (M) Sdn Bhd	Singapore (FDI)	Manufacturing of cardiac catheters, cardiac stents, patients monitors and orthopaedic implants.
11	GMMI Sdn Bhd	Germany (FDI)	Manufacturing, marketing and R&D of single-use medical endoscopy products.
12	MOSTDI Innovations Sdn Bhd	Singapore (FDI)	R,D&C of mini dental implants.

No	Company	Origin	Nature of Business
13	Amcare Biotech Research Sdn Bhd	USA (FDI)	Clinical reference laboratory offering specialised services in laboratory medicine.
14	Strovi Tel Sdn Bhd	Malaysia (DDI)	Undertakes the development, operations, and maintenance of the first National Plasma Fractionation Plant in Malaysia.
15	MySMO Sdn Bhd	Malaysia (DDI)	Provides full-range of Phase II - IV clinical research services to Pharmaceutical and Medical Technology Industry.
16	Natureceuticals Sdn Bhd	Malaysia (DDI)	Commercialisation of natural products ("misai kucing") that mainly target angiogenesis related ailments.
17	UM Pharmauji Sdn Bhd	Malaysia (DDI)	Drug discovery and development.
18	CCM-Lonza	Malaysia (DDI)	Establishment of an oncology drug manufacturing facility.
19	Royal Bird's Nest Sdn Bhd	Malaysia (DDI)	R,D&C on edible bird's nest based pharmaceuticals, nutraceuticals, and cosmeceuticals. Conducts clinical studies on standardised edible-birdnest extracts for therapeutic application in wound healing, stroke, osteoarthritis, and cosmetics.
20	Redhacare Biolabs Sdn Bhd	Malaysia (DDI)	Provides full-range of Phase II - IV clinical research services to Pharmaceutical and Medical Technology Industry.
21	Fjord Diagnostics	Malaysia (DDI)	R,D&C of cell-based medical diagnostic products and its consumables.
22	Hygieia Innovation Sdn Bhd	Malaysia (DDI)	The company is undertaking dental pulp stem cell banking and R&D activities.
23	Biotech Diagnostics	Malaysia (DDI)	The company is developing an antibody based diagnostic kit for detection of Clostridium difficile (C. Difficile) toxins in the faecal specimens of diarrhoea patients.

No	Company	Origin	Nature of Business
24	Evo Biotec Sdn Bhd	Malaysia (DDI)	Development and commercialisation of an innovative drug eluting coating technology for coating on PTCA Delivery Systems.
25	Orthomedic Innovations Sdn Bhd	Malaysia (DDI)	R,D&C of orthopaedic medical devices for the healthcare industry.

Next Steps for Healthcare Biotechnology:

In bringing further growth to the industrial healthcare segment, BiotechCorp will focus on the following areas moving forward:

- In line with the goals of the National Biotechnology Policy (NBP) Phase II, one of the key objectives is to promote healthcare biotechnology industry's growth through attracting international and domestic investments, creating employment opportunities and contribution to the nation's GDP via revenue generation.
- Efforts are intensified to secure high value investment into Malaysia by identifying MNC/global companies. Targeted MNCs have been identified for high impact projects, promoting investment into Malaysia by solidifying Malaysia's position as a regional hub.
- BDI Healthcare will be assessing opportunities in developed and emerging markets. Targeted companies are sought through identification of key market and new emerging markets. Development of innovative business models to suit the opportunities identified in developed or emerging markets would also be one of the strategies implemented.
- For the growth of the local biotechnology industry, reinvestment opportunities will be promoted among BioNexus companies, in addition to identifying and promoting spin-off companies from BioNexus. Biotechnology opportunities will also be promoted to Malaysian investors and major local corporations, besides developing action plan to work with other local government investment agencies. Promoting BioNexus companies to the investors will be another strategy in securing investment. BDI Healthcare will continue to play a major role in coordinating business matching between foreign companies and local companies in looking for collaboration opportunities.

For more details on Malaysian Biotechnology Industry, reference materials include:

- 1) UNCTAD – World Investment Report 2011
- 2) Asia Pacific Biotechnology Market (2008-2012)
- 3) RMK-9 Industry Score Card Report (2011)
- 4) Business Insights 2010
- 5) PricewaterhouseCoopers Report
- 6) Datamonitor – Biotechnology in Asia Pacific 2010
- 7) Biotechnological Innovations in Asia: Policy & Governance Challenges (Paper for IDRC)
- 8) Frost & Sullivan Report 2009/2010
- 9) Episcom, 2008
- 10) BioWorld

INDUSTRIAL BIOTECHNOLOGY

Industrial biotechnology (IB) is a key technology for future economic development. Touted as one of the emerging “Megatrends” leading to 2020, IB is now an area of growing interest and it is expected to revolutionise the economy and social development within the next 10-15 years. IB presents a compelling economic development opportunity for Malaysia. BiotechCorp with a mandate to develop the IB industry strives to facilitate the growth of the industry and to further accelerate commercialisation.

Industrial Biotechnology Strategies:

Six IB strategies have been identified to be implemented under the Commercialisation phase. These are:-

1. Securing new investment and funding.
2. Adoption of IB as a strategic technology backbone, leveraging on the nation’s bioresources and developing solutions for energy security, carbon emission reduction and environmental protection.
3. Commercialisation which includes nurturing local IB players, initiating offshore opportunities and internationalising these local players so they can become global industry players.
4. Setting up of 1st generation feedstock production to meet the immediate requirements of IB companies.
5. Securing high impact Domestic Direct Investments (DDIs).
6. Reinvestment.

Key Results

Strategy	Results
<p>Securing new investments</p>	<ul style="list-style-type: none"> • BiotechCorp has secured RM2 billion industrial biotechnology investment in the East Coast Economic Region (ECER). <p>The RM2 billion investment was from a Foreign Joint Venture Company between South Korea's CJ Cheiljedang Corporation and France's Arkema SA to set up the World's First bio-methionine plant and Asia's first thiochemical platform in Kertih Polymer Park, Terengganu.</p> <p>The project is expected to generate about RM20 billion in cumulative sales by 2020 and provide employment opportunities to almost 500 knowledge workers.</p> <ul style="list-style-type: none"> • Sime Darby Bhd and Mitsui Engineering and Shipbuilding Co. Ltd (MES) has built and will operate the World's First Bioethanol Demonstration Plant using empty fruit bunches (EFB) as feedstock. • A foreign BioNexus Status company to commercialise enzyme-based product for the cleaning and decontamination of Heating, Ventilation and Air Conditioning (HVAC) system.
<p>Securing high impact Domestic Direct Investments (DDIs)</p>	<p>A local BioNexus Status company in Southern Malaysia has started its Enzymatic production of Betapol Base and eCBE (enzymatic cocoa butter equivalents).</p>
<p>(a) Leverage on the nation's bioresources</p> <p>(b) As strategic solutions to energy security, carbon emission reduction</p> <p>(c) Environmental protection.</p>	<p>Bioeconomy Initiative Malaysia (BIM) was launched by the Prime Minister during BioMalaysia in November 2011 and BiotechCorp as secretariat to drive the BIM. The BIM's labs to highlight areas concerning Bioeconomy was conducted from March to April 2012.</p> <p>BiotechCorp has actively engaged in discussions on biomass initiatives with relevant agencies including Ministry of Science, Technology and Innovation (MOSTI), Global Science and Innovation Advisory Council (GSIAC), Agensi Inovasi Malaysia (AIM), Malaysian Industry-Government Group for High Technology (MIGHT) and key industrial players. Subsequent to this, biomass initiatives become the focus areas in national agenda.</p> <ul style="list-style-type: none"> • National Biomass Strategy developed by AIM was launched during BioMalaysia in November 2011. • Establishment of MyBiomass Sdn Bhd, a special purpose vehicle (SPV) that will facilitate a sustainable supply of biomass. • BiotechCorp had signed a Strategic Collaboration Agreement with AIM on development, promotion, facilitation and funding of innovation in biotechnology/life sciences. • BiotechCorp had signed a Strategic Collaboration with MIGHT in biomass initiatives.

Strategy	Results
<p>Internationalise local companies into global players</p>	<p>A local BioNexus Status company has been awarded a contract by an Indonesian public listed palm-based company to set up a biogas plant in Kalimantan, Indonesia. The company will provide the design, supply, engineering, installation, commissioning and project management of the effluent treatment plant, complete with anaerobic digester tanks and state-of-the-art process control system of the biogas plant. The plant will have sophisticated monitoring equipment that facilitate comprehensive data logging, useful for plant improvements.</p> <p>The Indonesian company plans to use biogas at this plant produced from its palm oil mill effluent to generate electricity for its palm oil mills and the surplus supply of the electricity would be directed to the community.</p> <p>The local company's technology provides solutions to energy security, carbon emission reduction and environmental protection.</p>
<p>Nurture local IB players</p>	<ul style="list-style-type: none"> • A local BioNexus Status company will provide bioremediation service using an integrated microbial-based palm oil mill effluent (POME) Treatment System (PTS). The company's technology provides solutions to carbon emission reduction and environmental protection. • A local BioNexus Status company in East Malaysia will produce sweeteners from sago starch via enzymatic process. • A local BioNexus Status company will produce functional beverages utilising microbial fermentation technology. • A local BioNexus Status company plans to produce bioplasticiser and resins utilising enzymatic process. • A local BioNexus Status company will produce paper using biotechnology process.
<p>Setting up of first generation feedstock production</p>	<p>BiotechCorp has started initiatives to source starch-based feedstocks namely Cassava to meet immediate needs for IB feedstocks. The immediate requirement is for the foreign company that will commence production in 2014.</p>
<p>Adoption of IB as a strategic technology backbone</p>	<ul style="list-style-type: none"> • Two foreign entities based in Bio-XCell Park expected to commence operation in 2013 to produce bio-based chemicals using palm-based biomass as the feedstock.

Strategy	Results
Adoption of IB as a strategic technology backbone	<ul style="list-style-type: none"> • In April 2011, during the Prime Minister of Malaysia Yang Amat Berhormat Dato Sri Najib Tun Razak's visit to the Republic of Korea, a Memorandum of Agreement (MOA) was signed between BiotechCorp and Korea Gas Corporation (KOGAS) to set up a demonstration plant to produce compressed biogas and bio-dimethyl ether (DME) from POME in Malaysia. • Sime Darby Berhad and Mitsui Engineering and Shipbuilding Co. Ltd (MES) have built and are operating the World's First Bioethanol Demonstration Plant using empty fruit bunches (EFB) as feedstock. • One foreign entity that has a Super Critical technology to produce raw sugar from empty fruit bunches (EFBs) plans to collaborate with oil palm plantation company and set up pilot plant in Malaysia.
Reinvestment	<p>The CJ Arkema project which requires steam from natural gas would be a major initiative in reinvestment. A local company has been identified to supply steam to CJ Arkema project using woody biomass as an alternative solution to natural gas.</p> <p>The local company's technology provides solutions to energy security, carbon emission reduction and environmental protection.</p>

Projects Carried Out in 2011

No	Company Name	Project Type (FDI / DDI)	Activity & Achievements
1	Green Access Sdn Bhd	DDI	<p>Commercialisation of an integrated microbial-based palm oil mill effluent (POME) Treatment System (PTS).</p> <p>The company was awarded a BioNexus Status on 11 July 2011.</p>
2	Cardia Bioplastics Malaysia Sdn Bhd	FDI/DDI	<p>Commercialisation of bioplasticiser and resins utilising enzymatic process.</p> <p>The company was awarded a BioNexus Status on 26 August 2011.</p>

No	Company Name	Project Type (FDI / DDI)	Activity & Achievements
3	Free The Seed Sdn Bhd	DDI	<p>Commercialisation of paper produced using biotechnology process.</p> <p>The company was awarded a BioNexus Status on 26 August 2011.</p>
4	Biotechnology Diversified Industries Sdn Bhd	DDI	<p>Commercialisation of sweeteners from sago starch via enzymatic process.</p> <p>The company was awarded a BioNexus Status on 29 September 2011.</p>
5	Konzen Clean Energy Sdn Bhd	DDI	<p>Commercialisation of palm oil mill effluent (POME) treatment system for the capture of biogas as a source of renewable energy.</p> <p>The company was awarded a BioNexus Status on 29 September 2011.</p>
6	Bio Tree Biotechnology Sdn Bhd	DDI	<p>Commercialisation of functional beverages utilising microbial fermentation technology.</p> <p>The company was awarded a BioNexus Status on 11 November 2011.</p>
7	Airestec Innovations Sdn Bhd	DDI	<p>Commercialisation of enzyme-based product for the cleaning and decontamination of Heating, Ventilation and Air Conditioning (HVAC) system.</p> <p>The company was awarded a BioNexus Status on 13 December 2011.</p>
8	CJ Arkema	FDI	<p>Production of bio L-Methionine, a green essential amino acid (EAA), methyl mercaptan, dimethyl disulphide (DMDS), and other co-products related to the production.</p> <p>The project was approved by the Economic Council on 27 June 2011</p>

No	Company Name	Project Type (FDI / DDI)	Activity & Achievements
9	Mitsui Engineering & Shipbuilding Co. Ltd. Malaysian branch	FDI	Demonstration plant to produce bioethanol from Empty Fruit Bunch.
10	Konzen Engineering System Sdn Bhd	DDI	The company provides Waste Water Management services.
11	MyBiomass Sdn Bhd	DDI	A special purpose vehicle (SPV) that will facilitate a sustainable supply of biomass.
12	ECER investment in CJ-ARKEMA	DDI	ECER had invested a substantial amount of money in Land preparation for CJ Arkema's project.
13	Lestari Pasifik Bhd	DDI	The company plans to produce bioethanol from cellulosic biomass. The company currently has signed a Memorandum of Understanding (MOU) with SIRIM for the setting up of a pilot plant utilising Bioethanol technology.

Next Steps for Industrial Biotechnology:

In ensuring that the industry continues to grow, BiotechCorp intends to carry out the following activities:

- Attract more foreign direct investment (FDI) to leverage on Malaysia as a hub for their industrial biotechnology activities, particularly multi-national corporations (MNCs).
- Work with local agriculture players to increase renewable feedstock supply for the development of industrial biotechnology.
- Increase focus on incentives and infrastructure sectors to be more competitive regionally.
- Initiate opportunities for local IB companies to go global.

INDUSTRY ADVISORY AND SUPPORT

There are three units that provide industry advisory and support - Intellectual Property and Immigration Services Unit, Regulatory Services Unit and Shared Facilities Unit.

Focus Areas

- To provide advisory and facilitation services in intellectual property, regulatory and immigration related matters to BioNexus companies.
- To provide customised training to BioNexus companies on related subjects for awareness and capacity building.
- To act as the custodian for BioNexus Partners Program (BNP), a programme that is aimed at supporting Malaysia's biotechnology-related life sciences industry by ensuring industry access to services, equipment and facilities available within publicly-funded organisations.

Key Results

Regulatory Services Unit

Issue/Activity	Results
Engagement with National Pharmaceutical Control Bureau, Ministry of Health	<ul style="list-style-type: none"> • Facilitation in obtaining approval for clinical trial import licence (CTIL) and Clinical Trial Exemption (CTX) • Facilitation in obtaining product registration • Facilitation in obtaining GMP certification
Engagement with Medical Practice Division, Ministry of Health	<ul style="list-style-type: none"> • Facilitation in obtaining Private Facility and Healthcare Services Licence
Engagement with Medical Device Control Division, Ministry of Health	<ul style="list-style-type: none"> • Facilitation in Voluntary Registration for Medical Devices Establishments (MEDVER Registration) • Facilitation in obtaining Free Sale Certificate
Engagement with Pharmaceutical Services Department, Ministry of Health	<ul style="list-style-type: none"> • Facilitation in obtaining import permit of psychotropic drugs and permit to buy and use psychotropic drugs
Engagement with Disease Control Division, Ministry of Health	<ul style="list-style-type: none"> • Facilitation in obtaining import and export permit of human cells, tissue and part thereof

Issue/Activity	Results
Engagement with Department of Biosafety	<ul style="list-style-type: none"> Facilitation in obtaining notification approval for contained used of living modified organism (LMO)
Engagement with Department of Veterinary Services	<ul style="list-style-type: none"> Facilitation in obtaining import permit for animal products Facilitation in registration of probiotic for animal use
Engagement with Department of Agriculture	<ul style="list-style-type: none"> Facilitation in obtaining import permits for microorganism Facilitation in obtaining phytosanitary certificates
Participation in the formulation of new regulatory requirements for BioNexus companies	<p>BiotechCorp participated in the technical working group in the following areas:</p> <ul style="list-style-type: none"> Subcommittee on Maximum Daily Limit for Vitamins and Minerals in Health Supplement, Ministry of Health Subcommittee on Claim Requirement for Traditional and Health Supplement Product, Ministry of Health Subcommittee on Stability and Shelf Life for Traditional Product and Health supplement, Ministry of Health

Intellectual Property (IP) and Immigration Services Unit

Issue/Activity	Results
Intellectual Property Services	
Engagements with the Intellectual Property Corporation of Malaysia (MyIPO)	<ul style="list-style-type: none"> Facilitation in IP filings for BioNexus companies Creating awareness on IP and commercialisation related issues
Engagements with institutions of higher learning	<p>In reaching out to educational institutions, we focused on the following areas in 2011:</p> <ul style="list-style-type: none"> Improvement in overall awareness on IP Enhanced and increased competency of in-house IP personnel Increased IP filings Increased commercialisation activities
IP Skills Enhancement Workshops	<p>In 2011, three of such workshops were held as follows:</p> <ul style="list-style-type: none"> The Art of Patent Drafting – A Guide for Beginners The Art of Patent Drafting – An Advanced Workshop Intellectual Property and Commercialisation

Issue/Activity	Results
Immigration Services	
Engagements with Immigration Department of Malaysia (IDM) and Talent Corporation Sdn Bhd (TalentCorp)	<ul style="list-style-type: none"> • Facilitation in employment pass and other related applications for BioNexus companies. • Facilitation in Residence Pass and Permanent Resident applications for BioNexus companies. • Improvement in awareness and understanding of the requirements and procedures involved in employment pass and residence pass applications and approvals for expatriates.
Immigration Awareness Seminars	<p>In 2011, two seminars were held as follows:</p> <ul style="list-style-type: none"> • The Role and Function of the Employment Pass Division held by the Immigration Department of Malaysia. • Immigration Awareness Seminar entitled "Residence Pass".

Shared Facilities Unit

Issue/Activity	Results
Development of BNP Centres of Excellence in Malaysia	<p>Three BNP Centers of Excellence have also been identified to be nurtured as Malaysia's reference and one-stop-centre in their specialised fields as follows:</p> <ol style="list-style-type: none"> 1. BNP Centre of Excellence for Natural Product Development in FRIM: <ul style="list-style-type: none"> • Tissue Culture Laboratory • Genetic Laboratory • Phytochemistry Laboratory • Herbal Product Development Laboratory • Pharmacognosy Laboratory • Herbal Technology Laboratory 2. BNP Centre of Excellence for Pharmacogenomics Research in UiTM: <ul style="list-style-type: none"> • Whole Genome Sequencing Unit • Integrated Systemic Biology Unit • Analytical Unit 3. BNP Centre of Excellence for Industrial Product Development in UTM: <ul style="list-style-type: none"> • Metabolic Profiling Laboratory • Bioprocess Engineering Laboratory • Herbal and Phytochemical Processing Laboratory • High Temperature Processing laboratory • Biofertilizer Services Laboratory • Wastewater Treatment Facilities

Issue/Activity	Results
<p>Networking sessions for industry players</p>	<p>BNP Networking Session on Agricultural & Industrial Biotechnology, FRIM on 26 July 2011</p> <p>The BNP Networking Session in FRIM was officiated by Datuk Seri Dr Maximus Ongkili, Minister of Science, Technology and Innovation on 26 July 2011. In conjunction with the event, BiotechCorp:</p> <ul style="list-style-type: none"> • Launched the BNP Centre of Excellence in Natural Product Development of FRIM. It consists six BNP laboratories and units which specialise in the development of herbal products and offers services which range from tissue culture, phytochemistry, product formulation and development, screening of bioactivity, up to GMP manufacturing and packaging. The BNP Centre of Excellence will be the reference and one-stop centre for the industry to develop products based on herbs. • Launched the Second Volume of the Malaysian Herbal Monograph. It is an official document that provides the necessary information needed by the herbal industry involved in the quality assurance of traditional medicines in ensuring consistent quality of the products marketed. It serves as an international standard reference on the quality and safety specifications of 20 selected medicinal plant species such as dukun ganak, misai kucing and mengkudu. • Memorandum of Understanding (MoU) exchanges on collaborations between FRIM's BNP laboratories and with local biotechnology companies: <ol style="list-style-type: none"> 1. I&R Herbal Industries Sdn Bhd Development in the research of Pre & Post Harvesting Technology of Mas Cotek towards sustainable supply of high quality raw material in the future. 2. Borneo Biogaharu Sdn Bhd R&D in gaharu oil extraction, setting up of karas plantation, inoculation of karas trees and product development. 3. Furley Bioextracts Sdn Bhd (BioNexus company) Development of Antioxidant Standardised Extracts and Natural Products towards commercialisation. 4. Celltis Sdn Bhd (BioNexus company) Cell and organ culture technology of few selected plants namely Kacip Fatimah and Aquilaria species. 5. IOI Palm Biotech Sdn Bhd (BioNexus company) Collaboration is on "Microsatellite Genotyping Service". 6. Herbagus Sdn Bhd Development in the research of Pre & Post Harvesting Technology, of Misai Kucing towards sustainable supply of high quality raw material in the future.

Issue/Activity	Results
<p>Networking sessions for industry players</p>	<p>BNP Networking Session on Healthcare Biotechnology, UiTM on 27 December 2011</p> <p>The BNP Networking Session in UiTM was officiated by Deputy Prime Minister of Malaysia Yang Amat Berhormat Tan Sri Muhyiddin Yassin, on 27 December 2011. The highlight of the event was the announcement of the successful mapping of the Malay ethnic genome. This will enable more understanding of gene related diseases and inter-ethnic variations of responses towards medicines. It will facilitate suitable drug development for the Malay ethnic group specifically and Asians in general. This is known as the ‘personalised medicine’ approach and has been practiced in developed countries. A group of researchers from Universiti Teknologi Mara (UiTM) have successfully completed mapping of the Malay ethnic genome, placing Malaysia at par with other developed countries.</p> <p>The event involved collaboration between the BNP laboratories and Units under BNP Centre of Excellence in Pharmacogenomics Research of UiTM, which include the Analytical Unit as well as Whole Genome Sequencing Unit and the Integrated Systemic Biology Unit which are both under the Pharmacogenomics Centre (PROMISE).</p>

Next Steps for Industry Advisory and Support:

With the reorganisation of structure, the department has changed its name to Industry Support Department with an additional new unit called the Processing and Client Engagement Unit. Moving forward, main focus areas include:

- Strengthening advisory and facilitation services to BioNexus companies.
- In a bid to nurture and accelerate growth of BioNexus companies, more programmes with industry relevant content will be organised.
- More programmes will also be held to encourage collaboration between BNP laboratories and BioNexus companies.

OPERATIONAL SERVICES

As part of its services to industry players, BiotechCorp processes and evaluates applications from biotech companies for the BioNexus Status as well as applications for income tax exemptions for BioNexus Status companies and other relevant tax incentives.

Given the importance of access to early financing for start-up companies commercialising their products and services, BiotechCorp also looks into the awarding of grants for industry players. Biotechnology Commercialisation Grants have benefited a number of BioNexus Status companies, especially at the early stage of operations.

Focus Areas:

1. BioNexus Status
2. Biotechnology Commercialisation Grants
3. Tax Incentives

Issue/Activity	Results Summary
BioNexus Status	<ul style="list-style-type: none"> • A total number of 115 applications for BioNexus Status were received by BiotechCorp in 2011. For the year, 25 BioNexus Status companies were approved bringing the total number to 210 as at 31 December 2011. The companies approved are as follows: <ol style="list-style-type: none"> 1. Biogrowth Sdn Bhd 2. Falcon Livestock (NS) Sdn Bhd 3. Biotech Diagnostics Sdn Bhd 4. Esclapeus Genomics Sdn Bhd 5. Bionestro Sdn Bhd 6. Wibawa Biotech Sdn Bhd 7. Green Access Sdn Bhd 8. Nu-Trino Synbio (M) Sdn Bhd 9. KLSMC Stem Cells Sdn Bhd 10. Cardia Bioplastics Malaysia Sdn Bhd 11. Free The Seed Sdn Bhd 12. Genomic Biotech Sdn Bhd 13. Vigor Agribiotech Solutions Sdn Bhd 14. JQ Biotech Sdn Bhd 15. Darvel Bay Sdn Bhd 16. Persona Kosmetik Sdn Bhd 17. AquaGems BioX Sdn Bhd 18. Biotechnology Diversified Industries Sdn Bhd

Issue/Activity	Results Summary
	<p>19. Konzen Clean Energy Sdn Bhd 20. Algae International Sdn Bhd 21. Bio Tree Biotechnology Sdn Bhd 22. Bio-Ferti Sdn Bhd 23. Airestec Innovations Sdn Bhd 24. KHL Herbal Biotech Sdn Bhd 25. RE Millennium Sdn Bhd</p> <ul style="list-style-type: none"> In addition, 14 applications requesting changes on special conditions imposed on BioNexus Status companies were assessed and tabled for the consideration of the BioNexus Evaluation Committee (BEC) for recommendation to the Ministry of Finance (MOF).
<p>Biotechnology Commercialisation Grants</p>	<ul style="list-style-type: none"> In 2011, a total eight BioNexus Status companies received grants under the Seed, Research and Development and International Business Development fund schemes bringing the total number of grant recipient to 81 companies (as at 31 December 2011). The list of grant recipients in 2011 are as follows: <ol style="list-style-type: none"> Inno Integrasi Sdn Bhd KLAS Farm Sdn Bhd Medical Biotherapy Sdn Bhd MOSTDI Innovations Sdn Bhd Novotech Clinical Research (M) Sdn Bhd Orthomedic Innovations Sdn Bhd Ronser Bio-Tech Sdn Bhd Ultimate Bio-Tech Sdn Bhd
<p>Tax Advisory & Services</p>	<ul style="list-style-type: none"> Apart from the 100% income tax exemption on statutory income incentive granted to BioNexus Status companies, a total of 18 applications for other BioNexus Status tax incentives were received and processed in 2011. The applications received and processed for other BioNexus Status tax incentives are: <ol style="list-style-type: none"> BioAlpha International Sdn Bhd Chua Tongsan Sdn Bhd Green & Smart Sdn Bhd SP Aquaculture Sdn Bhd JQ Biotech Sdn Bhd Vigor Agribiotech Solutions Sdn Bhd PureCircle Sdn Bhd

Issue/Activity	Results Summary
Tax Advisory & Services	<ol style="list-style-type: none"> 8. Stemlife Berhad 9. Genting Green Tech Sdn Bhd 10. TSH Biotech Sdn Bhd 11. IOI Palm Biotech Sdn Bhd 12. Mushroom Ambra Biotech Sdn Bhd 13. M-Gen-Propagation Sdn Bhd 14. Biofusion Sdn Bhd 15. Stempeutics Research (M) Sdn Bhd 16. Furley Bioextracts Sdn Bhd 17. Cytopro (M) Sdn Bhd 18. Grand Range Biotechnology Sdn Bhd <ul style="list-style-type: none"> • In addition, three audit verification exercises were conducted in respect of monitoring review for the BioNexus investment tax deduction incentive. • In continuing efforts to create awareness on the benefits and advantages of tax incentives, a seminar on Import Duty & Sales Tax Exemption and Compliance to Occupational Safety & Health Act & Regulations was conducted in October 2011 for all BioNexus Status companies.

Next Steps for Operational Services:

Moving forward, in facilitating development of BioNexus Status companies, BiotechCorp will focus upon the following areas:

- Continue to conduct an objective, thorough and systematic assessment for BioNexus Status, tax and funding applications.
- Ensure the integrity of the BioNexus framework.
- Establish the Biotechnology Commercialisation Fund (BCF) framework for implementation under the 10th Malaysian Plan.

BIO-XCELL: A DEDICATED SPACE FOR BIOTECHNOLOGY

Bio-XCell takes shape as a dedicated hub for industrial and healthcare biotechnology

Bio-XCell - Malaysia's first dedicated biotechnology park and ecosystem is being developed by Malaysian Bio-XCell Sdn Bhd, a joint venture company formed between Malaysian Biotechnology Corporation and property developer UEM Land Berhad.

Strategically located in Nusajaya, within the Iskandar region of Johor and close to the 2nd link with Singapore, Bio-XCell provides global connectivity through a network of five seaports and two international airports, all within 59 km. Bio-XCell will provide healthcare and industrial companies with a conducive and commercially attractive environment for biomanufacturing and bioprocessing activities including R&D, production and support services.

Bio-XCell biotechnology park to be ready for operations soon

To date, Bio-XCell has invested almost RM450 million on infrastructure and construction of the biotechnology park. The park which spans over an area of 161 acres will be developed in three phases across six years.

The key components of the park are expected to be completed by the third quarter (Q3) of 2012. These components include four units of standard manufacturing plants, the Central Utilities Facility and the Central Hub. As a managed park, Bio-XCell will provide its clients with a range of value added benefits including comprehensive infrastructure, park maintenance and security, core shared utilities and facilities as well as options related to the purchase and hire of process equipment.

The Central Hub of the park will house a number of lab incubators designed in adherence to the principles Good Lab Practices (GLP), to enable companies to set up their operations and R&D activities in compliance with GLP guidelines with ease. These lab incubators will be supported by adjoining office space and shared core lab facilities such as cold and incubation rooms, media preparation room, sterilisation/decontamination and washing room as well as a storage area.

Other supporting features of the Central Hub include training and conference facilities, an administration centre, plug & play office space, retail/ F&B outlets and other amenities.

The Central Utilities Facility (CUF) will provide steam, chilled water and waste water management as well as cater to specific utilities requirements of clients. This centralised service will reduce the capital expenditure for the park's clients.

Together these elements are expected to help create an ecosystem of small, medium and large industry players which support cost effective operations and advancements in innovation and technology transfer.

Bio-XCell attracts global biotech players

Since its global launch in May 2010, Bio-XCell has secured four clients namely Biocon and Agila Specialties - both leading biopharmaceutical companies from India, Metabolic Explorer from France and Glycos Biotechnologies from the United States of America. These are prominent industrial biotechnology players who will use proprietary platform technologies in their bioprocess development and manufacturing activities. The companies will be operational in Bio-XCell from 2013.

It is envisaged that these clients will bring with them significant innovation and intellectual property in biotechnology, providing for transfer of knowledge and development of specialised skills for the local talent pool.

Bio-XCell: event highlights of 2011

DATE & VENUE	EVENT
<p>April 18 2011</p> <p>Bio-XCell Corporate Office, Menara Atlan, Kuala Lumpur, Malaysia</p>	<p>Bio-XCell Secures RM250m Islamic Funding from Maybank</p> <p>Bio-XCell and Malayan Banking Berhad (Maybank) signed an agreement for a RM250 million Commodity Murabahah Term Financing – Islamic Facility (CMTF-i) which will partly fund the completion of Phase 1 of Bio-XCell’s development.</p> <p>The development of Phase 1 will require an investment of RM950 million which will be funded through foreign direct investments, Islamic debts and shareholders’ equity, reflecting strong market acceptance and confidence in the value propositions of this project.</p> <p>The agreement was signed by Chief Executive Officer of Bio-XCell, YM Raja Ridzwa Raja Abdul Aziz and Managing Director & Corporate Banking Head of Malayan Banking Bhd, Encik Hamzah Bachee. Chairman of Bio-XCell, Dato’ Iskandar Mizal Mahmood and Group President & CEO of Maybank, Dato’ Sri Abdul Wahid Omar witnessed the exchange of documents.</p>
<p>29 June 2011</p> <p>BIO International Convention 2011, Washington DC, USA</p>	<p>Strides Arcolab Joins the Bio-XCell Ecosystem</p> <p>Agila Specialties (Malaysia) Sdn Bhd, the specialties subsidiary of leading Indian pharmaceutical manufacturer Strides Arcolab Ltd, and Bio-XCell exchanged agreements for the establishment of a customised facility to manufacture biopharmaceuticals and sterile injectables at Bio-XCell. This represents another step towards building up a thriving biotechnology hub and ecosystem in the southern part of Malaysia</p> <p>Mr Adam Levitt, CEO- Americas of Strides Arcolab Ltd and YM Raja Ridzwa Raja Abdul Aziz, CEO of Bio-XCell exchanged the agreements in the presence of YAB Tan Sri Muhyiddin Yassin, Deputy Prime Minister of Malaysia during the BIO International Convention 2011 in Washington DC.</p>

DATE & VENUE	EVENT
<p>12 September 2011</p> <p>Persada Johor International Convention Centre, Johor Bharu, Malaysia</p>	<p>Biocon's Project Commencement</p> <p>Biocon, Asia's premier biotechnology company, held a project commencement ceremony for its high-end biopharmaceutical manufacturing and research and development facility to be located in Bio-XCell. This facility will cater to the global requirements for Biocon's range of biosimilar insulin and insulin analogs for diabetes treatment, The project will also focus on research and development and production of other biopharmaceutical products at a later phase. The plant will be built in compliance with US FDA cGMP standards.</p> <p>The Chief Minister of Johor, Y.A.B. Dato' Haji Abdul Ghani bin Othman unveiled the plaque commemorating the project's initiation. The ceremony was attended by Chairman and MD of Biocon, Ms Kiran Mazumdar-Shaw and Dato' Dr Mohd Nazlee Kamal, Chairman of Bio-XCell and CEO of BiotechCorp.</p> <p>In the first phase, Biocon proposes to invest around RM500 million (approximately US\$161 million) in this facility, which is targeted to be operational by 2014. The investment is the largest for the healthcare biotechnology sector in Malaysia thus far.</p> <p>Biocon's entry into Bio-XCell will further stimulate growth for the sector, providing commercial opportunities for small and medium biotechnology enterprises in Malaysia and promote a more vigorous domestic direct investment.</p>
<p>26 September 2011</p> <p>Kuala Lumpur, Malaysia</p>	<p>Rizatuddin Ramli Appointed as New CEO of Bio-XCell</p> <p>Bio-XCell announced the appointment of Rizatuddin Ramli as its Chief Executive Officer following the resignation of its founding CEO, YM Raja Ridzwa Raja Abd Aziz who was formerly from BiotechCorp.</p> <p>Rizatuddin Ramli, 40, takes over the helm of Bio-XCell with its secured investments of over RM750 million. Rizatuddin, a graduate in Computer Information Systems and Operations Management from Indiana University, Bloomington, USA, also holds a certificate in Advance Industrial Marketing from INSEAD University, Fountainebleau, France. He brings with him a wealth of experience in technology mapping and management as well as industrial marketing.</p>
<p>31 October 2011</p> <p>Nusajaya Centre & Bio-XCell Site, Iskandar, Johor</p>	<p>Media Briefing and Site Visit</p> <p>A visit to the Bio-XCell site in Iskandar, Johor was organised for members of the media. The press were briefed on Bio-XCell; the developments to date as well as the outlook for 2012 and how these initiatives are working towards fulfilling the National Biotechnology Policy, by its CEO, Rizatuddin Ramli.</p>

DATE & VENUE	EVENT
<p>31 October 2011</p> <p>Nusajaya Centre & Bio-XCell Site, Iskandar, Johor</p>	<p>The updates on Bio-XCell included the number of clients secured and the investments made to date as well as how Bio-XCell plans to enhance and strengthen service delivery to its clients and the industry.</p> <p>In the press release, the CEO referred to the recent results of 'Doing Business 2012' report published by the World Bank in which Malaysia was reported to climb five positions to be 18th place amongst 183 economies of the world for ease of doing business. He highlighted that this improved competitiveness, which is a result of the broader hard and soft infrastructure enabled by the government, will have a positive influence on investments in biotechnology.</p> <p>Eleven local media ran stories on Bio-XCell following this event. The progress made to date especially the attraction of foreign investment and the plans to bring more foreign biotech companies to the park were the main messages. The media value of this exercise as measured by the MVI (media value index) was RM145,067.</p>
<p>21 November 2011</p> <p>BioMalaysia and Pacific Rim Summit on Industrial Biotechnology & Bioenergy Kuala Lumpur Convention Centre, Malaysia</p>	<p>Bio-XCell & UTM Enter Collaboration to Strengthen the Biotechnology Ecosystem</p> <p>Bio-XCell and Universiti Teknologi Malaysia (UTM) which are both located within the Iskandar region of Johor agreed to work together to establish strategic collaborations to strengthen the biotechnology ecosystem at Bio-XCell. Some of the proposed initiatives include graduate placement, specialised training, sharing of facilities and strategic R&D collaborations.</p> <p>A Memorandum of Collaboration (MoC) between the two organisations was signed by CEO of Bio-XCell Rizatuddin Ramli and the Vice Chancellor of UTM Professor Dato' Dr Zaini Ujang, in the presence of Prime Minister of Malaysia YAB Dato' Seri Najib Tun Abdul Razak at the Opening Ceremony of the concurrently held BioMalaysia 2011 and the 2011 Pacific Rim Summit on Industrial Biotechnology & Bioenergy Conference and Exhibition held at the Kuala Lumpur Convention Centre.</p> <p>Bio-XCell has initiated discussions with UTM on the utilisation of facilities and services at UTM by Bio-XCell clients and the participation of UTM within the Bio-XCell ecosystem.</p> <p>One of the on-campus facilities at UTM which will expand the value added services Bio-XCell can offer its clients is the Bioprocessing Pilot Plant at Institute of Bioproduct Development (IBD). This is an integrated multipurpose facility which provides a wide range of services from primary bioprocess optimisation in small scale bioreactors of 16 litres to a larger scale manufacturing in 1500 litres bioreactor.</p>

DATE & VENUE	EVENT
<p>21 November 2011</p> <p>BioMalaysia and Pacific Rim Summit on Industrial Biotechnology & Bioenergy Kuala Lumpur Convention Centre, Malaysia</p>	<p>This partnership will also facilitate graduate placement and industrial training for UTM graduates. The academic programmes and specialised short courses conducted by UTM will work towards providing the industry with skilled manpower and expertise which will drive growth of the biotechnology sector in Malaysia. One of the short courses ‘cGMP Facility for the Production of Biopharmaceuticals and Bioreactor Operation, Maintenance and Troubleshooting’ was conducted specifically for Bio-XCell staff in order to familiarise them with the needs of clients and the industry.</p>
<p>6 December 2011</p> <p>Bio-XCell Corporate Office, Menara Atlan, Kuala Lumpur, Malaysia</p>	<p>Glycos Biotechnologies Appoints Toyo Malaysia for Construction of Biochemical Facility at Bio-XCell, to be Operational in 2013</p> <p>Glycos Biotechnologies, Inc. (GlycosBio), an international biochemical company focused on commercialising renewable, high-value specialty chemicals, announced the appointment of Toyo Engineering & Construction Sdn Bhd (Toyo Malaysia) to provide engineering, procurement, and construction (EPC) services for its industrial biochemical production facility at Bio-XCell, scheduled for completion in the second quarter of 2013.</p> <p>GlycosBio’s commercial facility is being developed in several phases with a targeted production rate capacity of up to 30,000 metric tons per year by 2014 and with a subsequent scale-up to 90,000 metric tons. Biochemicals targeted for production at GlycosBio’s plant include isoprene, a key building block molecule used in the synthetic rubber industry.</p> <p>GlycosBio will initially utilise the facility to validate the ability to produce industrial ethanol from crude glycerine. The company will then further demonstrate its flexible technology platform on a commercial scale using a range of feedstocks including fatty acids. Production of isoprene from low-value renewable feedstock readily available in Malaysia at this facility is also planned for development and commercial scale up.</p>

Next Steps for Bio-XCell:

We will focus up the following areas to create a vibrant ecosystem for advancements in industrial and healthcare biotechnology in Malaysia.

- In the current phase of growth (phase 1) we will continue to focus on building up activities in biomanufacturing and bioprocessing by engaging with regional and global biotech industry players to attract foreign direct investment. Infrastructure and facilities are being developed at Bio-XCell to support the needs of these industry leaders.
- We will be strengthening collaboration with agencies, universities and institutes, building partnerships with both public and private sectors to nurture the biotechnology ecosystem and optimise the utilisation of the available resources and talent pool.

- In gearing up for the next phase (phase II), we will focus on promoting innovation, R&D activities and the bioeconomy. We hope to catalyse the participation of local companies in R&D projects which will fuel future product pipelines. We also hope to develop local capabilities through technology transfer and technology licensing in this phase.
- The micro strategies for each phase will be refined as we go along, in line with global and regional market trends, in optimising value creation for the local biotechnology sector and the economy.

In achieving these objectives Bio-XCell will be an effective platform for commercialisation in biotechnology, in meeting the objectives of Phase 2 of the National Biotechnology Policy (NBP) – the Science to Business phase.

Furthermore, initiatives by Bio-XCell are gearing up to fulfil Phase 3 of the NBP- Building and Establishing Global Businesses in Biotechnology.

TECHNOLOGY MANAGEMENT OFFICE: ENHANCING BIOTECH EXCELLENCE

BiotechCorp Technology Management Sdn Bhd (BTM) incorporated on 16 March 2011, is a wholly owned subsidiary of the Malaysian Biotechnology Corporation Sdn Bhd (BiotechCorp). BTM in the interim functions as a division of BiotechCorp also known as the Technology Management Office (TMO). TMO is tasked to manage, develop and commercialise the technologies acquired by BiotechCorp under the 9th Malaysian Plan Biotechnology Acquisition Programme (BAP).

Focus Areas:

- **Supercritical Fluid Extraction and Particle Formation Platform Technology:** The Supercritical Fluid Extraction and Particle Formation Platform Technology uses the unique properties of carbon dioxide CO₂ which at temperatures and pressures exceeding its critical point will be in a high density state with properties of liquid as well as possess high diffusivity, a characteristic of a gas. This allows for extraction beyond the limitations of traditional extraction methods and the ability to produce standardised extracts of high quality. The technology is housed at the Supercritical Fluid Extraction Centre (SFC) in Universiti Putra Malaysia (UPM) that also offers Soxhlet extraction, fractionation and particle formation (aqueous and organic) in addition to supercritical fluid extraction.
- **Marker Assisted Selection Platform Technology:** The Marker Assisted Selection (MAS) Platform Technology uses DNA markers to identify, link and select desired traits for breeding. The application of this technology significantly accelerates the breeding process from the usual 5 – 6 years in traditional breeding to about 2 years. MAS is particularly useful for traits that are difficult to measure, exhibit low heritability and / or expressed late in development. The technology is housed at the Centre for Marker Discovery and Validation (CMDV) that offers high-throughput genotyping services such as marker discovery, validation and selection as well as DNA finger printing for varietal / accession identification of plants, livestock, aquaculture and commodity crops. To further strengthen CMDV's capability as a regional centre, identification and validation of molecular markers for crucial traits in rice, goat and watermelon have been undertaken.

- **DotScan Platform Technology:** The DotScan Platform Technology is an antibody microarray that uses light to detect and measure amounts of target cells in biological samples such as blood and serum that is captured by an array of specific antibodies. This technology is able to diagnose and identify particular diseases based on the pattern that emerges from the arrays by identifying large groups of interactions simultaneously. This high-throughput screening can be applied to biomarker discovery, disease diagnosis and prognosis, drug target discovery, and disease profiling without the need of specific biomarkers based on the unique patterns that emerges from the large group of interactions. Interested parties can sub-license the technology for the development of specific applications or commercialise the clinically validated applications for the diagnosis and identification of specific Leukaemia types.
- **Nanotechnology Platform:** The Nanotechnology Platform allows the design and synthesis of multifunctional inorganic nanoparticles of specific sizes for a wide range of applications in fields such as materials, healthcare, cosmeceutical, agriculture as well as industrial and environmental diagnostic kits. The nanoparticles can generate physical or chemical reactions controlled by an external source such as:
 - NanoMag – Activation by a magnetic field (e.g. MRI)
 - NanoPDT – Activation by a light source (e.g. Laser)
 - NanoXRay – Activation by X-Ray

The following are subsidiaries incorporated under BiotechCorp Technology Management Sdn Bhd:

- i. BiotechCorp Supercritical Solutions Sdn Bhd
- ii. BiotechCorp Molecular Solutions Sdn Bhd
- iii. BiotechCorp Diagnostic Solutions Sdn Bhd
- iv. BiotechCorp Nanotech Solutions Sdn Bhd

Key Results

Issue/Activity	Results
Supercritical Fluid Extraction and Particle Formation Platform Technology	<p>The Supercritical Fluid Extraction Centre (SFC) has been successfully set-up at the Faculty of Food Science & Technology in UPM and is currently undergoing the necessary regulatory approvals and is estimated to commence its operations at the end of the third quarter of 2012. In 2011, TMO promoted the platform by:</p> <ul style="list-style-type: none"> • Participating in the Malaysia Science, Technology & Innovation (mySTI) 2011 Exposition. • Collaborating with Yakin Biolabs Sdn Bhd to organise a seminar on “CO₂, Botanical Extracts as the Better Alternative than Convention Solvent Extracts” on 1 December 2011.

Issue/Activity	Results
	<ul style="list-style-type: none"> • Organising a talk by Dr Noranizan Mohd Adzahan from UPM during the seminar on “CO₂, Botanical Extracts as the Better Alternative than Convention Solvent Extracts” on 1 December 2011. • Participating in the BioMalaysia 2011 Exhibition. • Organising a talk by Dr Chong Gun Hean on Supercritical Fluid Extraction Technology and Supercritical Fluid Centre in UPM during BioMalaysia 2011.
<p>Marker Assisted Selection Platform Technology</p>	<p>The Centre for Marker Discovery and Validation (CMDV) has been fully set up and commenced its operations in 2011 after a successful launch during BioMalaysia 2011, in the presence of Prime Minister of Malaysia YAB Dato’ Sri Najib Tun Razak.</p> <p>During the launch, BiotechCorp and Malaysian Agricultural Research and Development Institute (MARDI) had signed agreements with JEPI Aquatech Resources Sdn Bhd, Malaysian Palm Oil Board (MPOB) and Green World Genetics Sdn Bhd to utilise the services offered by CMDV. TMO increased public awareness on the MAS Platform Technology by:</p> <ul style="list-style-type: none"> • Organising an Introductory Seminar on Centre for Marker Discovery and Validation on 21 June 2011. • Participating in the Malaysian Science, Technology & Innovation (mySTI) 2011 Exposition. • Participating in the BioMalaysia 2011 Exhibition. • Organising a talk by Dr Umi Kalsom binti Abu Bakar from MARDI on “Introduction to the Centre for Marker Discovery and Validation (CMDV)” during BioMalaysia 2011.
<p>DotScan Platform Technology</p>	<p>The technology transfer for the DotScan Platform Technology has been successful with two technology custodians, the Institute for Medical Research (IMR) and UPM. Both organisations are currently conducting research towards the development of new applications utilising the DotScan Platform Technology. In addition, this Platform Technology has garnered interest from several researchers as well as from the industry keen to develop applications in line with their research interest as well as to commercialise the available Leukaemia application using DotScan. TMO promoted the DotScan Platform Technology by:</p> <ul style="list-style-type: none"> • Participating in the Malaysia Science, Technology and Innovation (mySTI) 2011 Exposition. • Participating in the BioMalaysia 2011 Exhibition.

Issue/Activity	Results
	<ul style="list-style-type: none"> Organising a talk by the co-inventor, Professor Richard Christopherson on “Surface Profiling of Leukaemias, Lymphomas and Colorectal Cancers using DotScan Antibody Microarrays” during BioMalaysia 2011. Organising a talk by Dr Abhimanyu Veerakumarasivam from UPM on “Novel Applications for DotScan Antibody Microarrays” during BioMalaysia 2011.
<p>Nanotechnology Platform</p>	<p>The technology transfer on the Nanotechnology Platform has been completed with a year-long training and the establishment of the NanoBiotechnology Research and Innovation (NanoBRI) Centre under the Institute for Research in Molecular Medicine (INFORMM). The NanoBRI team comprises three principal researchers from multidisciplinary backgrounds with dedicated laboratories and state-of-the-art facilities funded by USM including a nanomaterials synthesis laboratory, a nanomaterials characterisation laboratory, cell culture facilities, inverted fluorescence microscopy facility and a biological laboratory. Research by NanoBRI includes the design and development of nanoparticles, nanocolloids, reagent design, drug and molecule carrier design and development, cellular imaging and diagnostic platforms. It is currently able to produce NanoSilica, NanoMagnetic, NanoGold and Liposome nanoparticles. There is also an online nanotechnology platform for pre-application for those interested in sub-licensing the technology. In addition to that, in 2011, to promote nanotechnology and create more awareness, TMO also carried out the following activities:</p> <ul style="list-style-type: none"> Organising a talk during the Healthcare Seminar for BioNexus Companies organised by the Business Development and Investment Division – Healthcare on 31 March 2011. Participating in the Malaysia Science, Technology and Innovation (mySTI) 2011 Exposition. Participating in the BioMalaysia 2011 Exhibition. Organising a talk by Assoc Prof Dr Azlan Abdul Aziz from USM on “Application based on the Nanotechnology Platform” during BioMalaysia 2011.

Next Steps for Technology Management Office:

The Technology Management Office (TMO) will continue to manage and commercialise platform technologies via the following strategies:

- To assist in the development of value propositions for the technology custodians to further develop and commercialise the technologies.

- Engage with industry players and commercial partners to increase awareness and accelerate the adoption of the technologies as well as increasing the client base for the platform technologies.
- To increase the technical manpower and training of the backup teams of each technology to ensure the technology custodians are able to efficiently and effectively provide services to their clientele.
- To develop collaborations to ensure increased utilisation of the platform technologies.
- To develop and continuously standardise the business and standard operating procedures (SOP) of the technology custodians. Improvement in management and SOPs would hasten the transformation of CMDV and SFE to a commercial entity that provides efficient and effective services to their clients.
- To assist the technology custodians in managing their clients as required - before, during and after the services are rendered.
- To liaise with the technology licensors to ensure that required support is provided to the technology custodians.

TMO will also be expanding its scope of business to offer:

- Customised services to organisations such as research institutes, universities, government agencies and private companies for the commercialisation of intellectual property.
- Business plan workshops for companies applying for the BioNexus Status.





VISIONING
THE **FUTURE**:
THE BIOECONOMY
IMPERATIVE

Visioning The Future: The Bioeconomy Imperative

BIOTECHCORP'S BIOECONOMY ASPIRATIONS

Over the past two decades, substantial economic output and environmental benefits have been attained by various economies across the globe through continued commercial application of biotechnology. This has led to growing strategic interest in a bio-based economy, or bioeconomy.

According to the Organisation for Economic Cooperation and Development (OECD), bioeconomy is expected to contribute an average of 2.7% to global gross domestic product (GDP) by 2030, and will involve all industries and economic sectors based on the values implicit in biological materials which can be translated into new sources of income, environmental sustainability and social well-being.

Recognising the significance of the bioeconomy to the future growth and strength of the country, major world economies such as the United States and the European Union have already begun initiating their own bioeconomy plans and blueprints in the recent year.

Malaysia, as one of the most competitive biotechnology hubs in the Asia Pacific region, has also recognised the importance of bioeconomy, and has taken early critical steps in coordinating and intensifying national efforts to harness its potential through the implementation of the Bioeconomy Initiative Malaysia (BIM). BIM is a framework to implement the action plan outlined in the National Biotechnology Policy (NBP) for development of the biotechnology industry in various fields. It is envisaged to be one of the engines to improve the national economy.

Endorsed by Malaysia's Biotechnology Implementation Council and launched by the Prime Minister of Malaysia YAB Dato' Sri Najib Tun Razak during BioMalaysia 2011 in November, BIM will enable the biotechnology industry to contribute to the nation becoming a high-income economic powerhouse by year 2020.

Leveraging on the successes of NBP Phase 1: Capacity Building (2005-2010) at creating a conducive, sustainable ecosystem for Research and Development (R&D) and commercialisation in the areas of agriculture, healthcare and industrial biotechnology, the BIM is well positioned to further enhance the role of biotechnology as a key cross-cutting technology driver in transforming Malaysia into a high-income, knowledge-based economy.

In order to achieve this national ambition, the BIM aims to coordinate and intensify the nation's efforts to capitalise on the potential economic benefits of the entire biotechnology ecosystem and related value chains, in line with the Economic Transformation Program. This will be accomplished by maximising the participation of private industry in high-impact opportunities in all industries and economic sectors that produce, manage, and utilise biological resources, including agriculture, forestry, fisheries, food, wellness, chemicals and renewable energy.

Through the BIM, Malaysia expects to unlock even greater opportunities in the local and regional biotechnology industry, and enhance the participation of the private sector. At the same time, the public sector is renewing its commitment to continue to provide and facilitate the necessary support for the development of the approved projects.

By optimising the nation's competitive edge through private and public participation, Malaysia will continue to further strengthen its local biotechnology ecosystem for the growth and development of a sustainable bioeconomy that will drive the country's socio-economic status to greater heights.





STATEMENT ON
CORPORATE
GOVERNANCE

Statement On Corporate Governance

The Board of Directors of BiotechCorp is committed to instilling a corporate culture which emphasises on good corporate governance and the effective application of the principles and best practises as set out in the Malaysian Code on Corporate Governance.

The Board remains fully resolved to ensuring that integrity, transparency, accountability and professionalism are observed in the conduct of the business activities of BiotechCorp as these core values will not only safeguard the interest of its stakeholders but will also maximise the shareholder value.

A. Board of Directors

Composition and Balance

The Board currently comprises nine (9) members. With the exception of the Chief Executive Officer, all the remaining members are non-executive directors.

A brief profile of each Director is contained in this Annual Report.

To ensure the balance of power and authority, the roles of the Chairman and the Chief Executive Officer of the Company are clearly segregated.

The non-executive directors are independent of Management and are free from any relationship that could materially affect or interfere with the exercise of their independent judgement.

There were several changes in the Board's composition during the financial year 2011. The changes are summarised in the table below:

Name	Remarks
YBhg Datuk Roseley Dato' Haji Khalid - <i>Director</i>	Resigned on 13 July 2011
YBhg Dato' Iskandar Mizal Mahmood - <i>Director and CEO</i>	Resigned on 16 July 2011
YBhg Dato' Dr Mohd Nazlee Kamal - <i>Director and CEO</i>	Appointed on 18 July 2011
YBhg Dato' Sulaiman Md Zain - <i>Director</i>	Appointed on 18 July 2011 Resigned on 12 December 2011

Name	Remarks
YBhg Dato' Abd Wahab Maskan - <i>Director</i>	Resigned on 1 August 2011
Puan Norsimah Ab Wahab - <i>Director</i>	Appointed on 1 August 2011
Tuan Haji Mohd. Radzi Hussein* - <i>Director</i>	Resigned on 22 August 2011 Re-appointed on 1 December 2011
YBhg Tan Sri Dato' Dr Jegathesan a/l N.M. Vasagam @ Manikavasagam - <i>Director</i>	Appointed on 17 October 2011
Dr Radzuan A. Rahman - <i>Director</i>	Appointed on 16 December 2011
Encik Amirul Fares Wan Zahir - <i>Director</i>	Appointed on 16 December 2011

* *Tuan Haji Mohd. Radzi Hussein's resignation on 22 August 2011 was in line with his retirement from the civil service.*

Meetings

The terms of reference of the Board provides for the Board to meet at least once in every quarter with additional meetings convened as and when required. Meetings for the year are scheduled early in the year. Due notice is given for scheduled meetings and additional meetings are convened on an ad hoc basis for urgent and important matters. Where appropriate, decisions are taken by way of circular resolutions in between scheduled meetings.

The agenda for each Board meeting and papers relating to the agenda items are disseminated to all Directors prior to the meeting, in order to provide sufficient time for the Directors to review the Board papers and seek clarifications, if any.

During the financial year under review, five (5) board meetings were held.

Details of attendance of each individual director in respect of the meetings held are disclosed below:

Name of Directors	Number of Board Meetings attended/held in 2011 (during the Directors' tenure)	
	Attended	%
YBhg Tan Sri Datuk Dr Ahmad Zaharudin Idrus	5/5	100
YBhg Dato' Iskandar Mizal Mahmood	2/2	100
YBhg Dato' Puteh Rukiah Abd Majid	1/1	100
YBhg Dato' Madinah Mohamad	4/5	80
Tuan Haji Mohd. Radzi Hussein#	4/4	100
Professor Dr Zainul Fadhiruddin Zainuddin	4/5	80

Name of Directors	Number of Board Meetings attended/held in 2011 (during the Directors' tenure)	
	Attended	%
YBhg Datuk Roseley Dato' Haji Khalid	2/2	100
YBhg Dato' Abd Wahab Maskan	0/2	0
YBhg Dato' Dr Mohd Nazlee Kamal	3/3	100
YBhg Dato' Sulaiman Md Zain	3/3	100
Puan Norsimah Ab Wahab	2/3	67
YBhg Tan Sri Dato' Dr Jegathesan a/l N.M. Vasagam @ Manikavasagam	2/2	100

The Board had during its meeting held on 12 August 2011 accepted the resignation of Tuan Haji Mohd. Radzi Hussein's membership to the Board and to all related Board Committees with effect from 22 August 2011. Tuan Haji Mohd. Radzi Hussein was re-appointed to the Board on 1 December 2011.

Supply of Information to the Board

Board Meetings are structured with pre-set agendas. Relevant documents and papers to be tabled to the meeting are circulated in advance to ensure there is sufficient time for the Directors to obtain further information where necessary and to facilitate informed decision-making process.

All Directors have full and immediate access to information relating to the Company's business and affairs in the discharge of their duties.

Appointment and Re-election of Directors

During the period under review, the Board had approved the appointment of YBhg Dato' Dr Mohd Nazlee Kamal, YBhg Dato' Sulaiman Md Zain, Puan Norsimah Ab Wahab, YBhg Tan Sri Dato' Dr Jegathesan a/l N.M. Vasagam @ Manikavasagam, Tuan Haji Mohd. Radzi Hussein, Dr Radzuan A. Rahman and Encik Amirul Fares Wan Zahir as Directors of the Company.

In line with the Memorandum and Articles of Association of the Company, the election of Directors takes place each year, where one-third of the Directors retire from office at each Annual General Meeting (AGM); the Directors are eligible to offer themselves for re-election.

The Articles also provide that Directors appointed in the year by the Board shall hold office until the next following AGM, and shall be eligible for re-election thereat.

Board Committees

The Board of Directors had established various Board Committees and delegated certain responsibilities to these Committees including the Audit Committee (AC) and the Nomination and Remuneration Committee (NRC).

These Committees operate within clearly defined terms of reference approved by the Board.

(a) Audit Committee (AC)

The Committee's role is to review the Company's financial reporting and to ensure the effectiveness of the systems of internal control and compliance.

The AC currently comprises the following members:

- (i) Tuan Haji Mohd. Radzi Hussein - Chairperson
- (ii) Professor Dr Zainul Fadziruddin Zainuddin
- (iii) Puan Norsimah Ab Wahab
- (iv) Encik Amirul Fares Wan Zahir

The AC met four (4) times during the financial year ended 31 December 2011.

(b) Nomination and Remuneration Committee (NRC)

The Committee is primarily responsible for the following:

- a) to review, evaluate and analyse all matters relating to the Company's Human Resource Policies and Procedures;
- b) to review, assess and determine the Company's employee remuneration and benefits structure; and
- c) to oversee the selection and appointment of Senior Management personnel of the Company

The NRC currently comprises the following members:

- (i) YBhg Tan Sri Datuk Dr Ahmad Zaharudin Idrus – Chairman
- (ii) Professor Dr Zainul Fadziruddin Zainuddin
- (iii) YBhg Tan Sri Dato' Dr Jegathesan a/l N.M. Vasagam @ Manikavasagam

The NRC met three (3) times during the financial year ended 31 December 2011.

(c) Other Committees established by the Board, include the following:

- (i) Tender Board A
- (ii) Tender Board B
- (iii) Programme Recommendation Committee
- (iv) Programme Approval Committee
- (v) Commercialisation and Technology Acquisition Grant (CTAG) Technical Committee
- (vi) CTAG Approval Committee
- (vii) Pre-Disbursement Committee

B. Reports to Shareholders & Investors

BiotechCorp reports the Operating Expenditure (OPEX) and Development Expenditure received from the Ministry of Science, Technology and Innovation and the Ministry of Finance based on approved deliverables and targets set by and between the Government and BiotechCorp.

C. Accountability and Audit

Financial Reporting

In presenting the annual financial statements to the Stakeholders, the Board aims to present a balanced and accurate assessment of BiotechCorp's position and deliverables.

The Audit Committee assists by scrutinising the information to be disclosed, to ensure accuracy and transparency.

Directors' Responsibility Statement

The Directors are required by the Companies Act, 1965 to prepare financial statements for each financial year which have been made out in accordance with the provisions of the Act and applicable approved accounting standards and thus, provide a true and fair view of the state of affairs of the Company at the end of the financial year and of the results and cash flows of the Company for the said financial year.

The Directors are satisfied that in preparing the financial statements of the Company for the financial year ended 31 December 2011, the Company had used the appropriate accounting policies and applied them consistently.

The Directors are also of the view that relevant approved accounting standards were followed in the preparation of these financial statements.

Internal Control

The Board of BiotechCorp recognises the pivotal role of a strong internal control system in keeping the Company on course towards achieving its goals and objectives.

Towards this end, the Board had established the necessary framework for an internal control system which covers the areas of risk management, financial, organisational, operations and compliance with relevant laws and regulations.

- **Management Established Committees**

Several committees were established by the Management to deliberate and decide on administrative, operational, corporate risks issues, management reports, KPI achievements and status of projects undertaken by divisions, departments as well as business units within the Company.

The Committees established by the Management are, namely:

- (i) Management Committee
- (ii) Risk Management Committee
- (iii) Operational Committee

- **Performance Review**

The Board receives and reviews regular reports from the Management which are required to be brought to its attention for discussion, thus ensuring that it maintains full and effective supervision as well as appropriate control.

The Board approved Corporate Scorecard, Business Plan and Budget are closely monitored by the Management. Variances and critical operational issues are followed up and appropriate actions are undertaken to address the same.

At the end of the financial year, the Company's performance and financial results are tabled to the Board.

- **Internal Audit Function**

The Internal Audit Department (IAD) is independent of the activities and operations of the Company. The duties of the Internal Auditors are performed impartially, proficiently and with professional due care.

Overall, the IAD is responsible for advising the Company on established policies, guidelines, controls and security procedures in order to minimise risks, prevent losses and promote efficiency and effectiveness in achieving BiotechCorp's mission as entrusted under the National Biotechnology Policy.

- **Company-wide Continuous Process Improvement Initiatives**

Quality Management System – ISO 9001:2008

The QMS initiative aims at providing support, facilitation and advisory services to nurture and develop biotechnology companies in Malaysia through delivery of high quality and customer-oriented services as well as efficient work processes which are continuously reviewed and improved.

BiotechCorp passed the 2nd Surveillance audit conducted by Moody International on 30 November 2011 with no major or minor non-conformances reported.

Business Continuity Plan and Crisis Simulation Exercise

The Business Continuity Plan (BCP) serves as a structured framework which sets out the planning methodology to ensure that any disruption to the operations of the business units, as a result of any eventualities, is kept at a minimum therefore building business resiliency. The BCP is intended to prepare the Company to manage recovery operations in the event of any disaster.

A crisis simulation exercise was conducted on 19 September 2011 to test the established plans. Continual improvement and documentation review of the BCP are carried out to ensure that these plans remain effective and relevant.

Records Management System based on ISO15489:2001 and Document Management System

In an effort to mitigate business and operational risks, the Records Management System (RMS) based on ISO15489:2001 standards was initiated in 2010. RMS is an expansion of the scope of the Quality Management System ISO9001:2008's Control of Records Procedure.

A Record Management Policy (RM Policy) was established in the first phase of the RMS project. During the implementation stage, Paradigm 3 and Document Management System (DMS) were integrated into the RMS.

Paradigm 3, an IT integrated system, facilitates the establishment of a centralized corporate document and records system to provide an effective storage management and expeditious retrieval process. For the purpose of Paradigm 3, records were identified and classified into four depending on its security level, namely Highly Confidential, Confidential, Restricted and Public.

BiotechCorp passed the RMS Audit in December 2011 with no major or minor non-conformances reported.

D. Relationship with External Auditors

The Company maintains a transparent and appropriate relationship with the External Auditors.

Where necessary, the External Auditors' advice are sought to ensure that the Company complies with applicable accounting standards and all statutory requirements.

The External Auditors are invited to attend meetings to deliberate on audit plans and annual financial results and to make necessary recommendations for the Board's consideration.

31 March 2012





FINANCIAL STATEMENTS

Financial Statements

MALAYSIAN BIOTECHNOLOGY CORPORATION SDN. BHD. (Incorporated in Malaysia)

DIRECTORS' REPORT

The directors of MALAYSIAN BIOTECHNOLOGY CORPORATION SDN. BHD. have pleasure in submitting their report and the audited financial statements of the Group and of the Company for the year ended 31 December 2011.

PRINCIPAL ACTIVITIES

The Company is principally engaged to act as a dedicated and professional one-stop agency for the government in developing biotechnology industry in the country whilst the principal activities of the subsidiaries are as stated in Note 9 to the Financial Statements. There have been no significant changes in the nature of these principal activities during the year.

RESULTS OF OPERATIONS

The results of operations of the Group and of the Company for the financial year are as follows:

	Group RM	Company RM
Net profit for the year	<u>2,833,632</u>	<u>8,092,369</u>

In the opinion of the directors, the results of operations of the Group and of the Company during the financial year have not been substantially affected by any item, transaction or event of a material and unusual nature.

DIVIDENDS

No dividend has been paid or declared by the Company since the end of the previous financial year. The directors do not recommend any dividend payment in respect of the current financial year.

RESERVES AND PROVISIONS

There were no material transfers to or from reserves or provisions during the financial year.

ISSUE OF SHARES AND DEBENTURES

The Company has not issued any new shares or debentures during the financial year.

SHARE OPTIONS

No options have been granted by the Company to any parties during the financial year to take up unissued shares of the Company.

OTHER STATUTORY INFORMATION

Before the income statements and balance sheets of the Group and of the Company were made out, the directors took reasonable steps:

- (a) to ascertain that proper action had been taken in relation to the writing off of bad debts and the making of allowance for doubtful debts, and had satisfied themselves that all known bad debts had been written off and that adequate provision had been made for doubtful debts; and
- (b) to ensure that any current assets which were unlikely to realise their book values in the ordinary course of business had been written down to their estimated realisable values.

As of the date of this report, the directors are not aware of any circumstances:

- (a) which would render the amount written off of as bad debts or the amount of allowance for doubtful debts in the financial statements of the Group and of the Company to any substantial extent; or
- (b) which would render the values attributed to the current assets in the financial statements of the Group and of the Company misleading; or
- (c) which have arisen which render adherence to the existing method of valuation of assets or liabilities of the Group and of the Company misleading or inappropriate; or
- (d) not otherwise dealt with in this report or financial statements which would render any amount stated in the financial statements of the Group and of the Company misleading.

At the date of this report, there does not exist:

- (a) any charge on the assets of the Group or of the Company that has arisen since the end of the financial year and which secures the liabilities of any other person; or
- (b) any contingent liability in respect of the Group or of the Company that has arisen since the end of the financial year.

No contingent liability or other liability of any company in the Group has become enforceable, or is likely to become enforceable within the period of twelve months after the end of the financial year which, in the opinion of the Directors, will or may substantially affect the ability of the Group and of the Company to meet their obligations as and when they fall due.

In the opinion of the directors, no item, transaction or event of a material and unusual nature has arisen in the interval between the end of the financial year and the date of this report which is likely to affect substantially the results of operations of the Group and of the Company for the succeeding financial year.

DIRECTORS

The following directors served on the Board of the Company since the date of the last report:

- Tan Sri Datuk Dr Ahmad Zaharudin bin Idrus
- Dato' Madinah binti Mohamad
- Prof Dr Zainul Fadziruddin bin Zainuddin
- Dr Radzuan bin A. Rahman (appointed on 16 December 2011)
- Amirul Fares bin Wan Zahir (appointed on 16 December 2011)
- Tan Sri Dato' Dr Jegathesan A/L N.M. Vasagam @ Manikavasagam (appointed on 17 October 2011)
- Norsimah binti Ab Wahab (appointed on 1 August 2011)
- Dato' Dr Mohd Nazlee bin Kamal (appointed on 18 July 2011)
- Dato' Sulaiman bin Md Zain (appointed on 18 July 2011, resigned on 12 December 2011)
- Mohd. Radzi bin Hussein (resigned on 22 August 2011, and re-appointed on 1 December 2011)
- Dato' Abd Wahab bin Maskan (resigned on 1 August 2011)
- Dato' Iskandar Mizal bin Mahmood (resigned on 16 July 2011)
- Datuk Roseley bin Dato' Haji Khalid (resigned on 13 July 2011)

DIRECTORS' INTERESTS

None of the directors in office at the end of the financial year held shares or had beneficial interest in the shares of the Company during and at the end of the financial year.

DIRECTORS' BENEFITS

Since the end of the previous financial year, none of the directors of the Company has received or become entitled to receive any benefit (other than the benefit included in the aggregate amount of emoluments received or due and receivable by the directors as shown in the financial statements or the fixed salary of a full time employee of the Company or of the related corporation) by reason of a contract made by the Company or a related corporation with the director or with a firm of which he or she is a member, or with a company in which he or she has a substantial financial interest.

During and at the end of the financial year, no arrangement subsisted to which the Company was a party whereby directors of the Company might acquire benefits by means of the acquisition of shares in, or debentures of, the Company or any other body corporate.

HOLDING CORPORATION

The Company is a subsidiary company of Minister of Finance (Incorporated), a body corporate incorporated pursuant to the Minister of Finance (Incorporation) Act, 1957 (Revised 1989).

AUDITORS

The auditors, Messrs. Deloitte KassimChan, have indicated their willingness to continue in office.

Signed on behalf of the Board
in accordance with a resolution of the Directors,



TAN SRI DATUK DR AHMAD ZAHARUDIN BIN IDRUS



DATO' DR MOHD NAZLEE BIN KAMAL

Kuala Lumpur
7 May 2012

INDEPENDENT AUDITORS' REPORT TO THE MEMBERS OF MALAYSIAN BIOTECHNOLOGY CORPORATION SDN. BHD.

(Incorporated in Malaysia)

Report on the Financial Statements

We have audited the financial statements of **MALAYSIAN BIOTECHNOLOGY CORPORATION SDN. BHD.**, which comprise the balance sheets of the Group and of the Company as of 31 December 2011 and the income statements, statements of changes in equity and cash flow statements for the year then ended, and a summary of significant accounting policies and other explanatory information, as set out on page 118 to 143.

Directors' Responsibility for the Financial Statements

The directors of the Company are responsible for the preparation of financial statements that give a true and fair view in accordance with Private Entity Reporting Standards and the Companies Act, 1965 in Malaysia and for such internal control as the directors determine is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditors' Responsibility

Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with approved standards on auditing in Malaysia. Those standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditors' judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditors consider internal control relevant to the entity's preparation of financial statements that give a true and fair view in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by the directors, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence that we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the financial statements have been properly drawn up in accordance with Private Entity Reporting Standards and the Companies Act, 1965 in Malaysia so as to give a true and fair view of the financial position of the Group and of the Company as of 31 December 2011 and of their financial performance and cash flows for the year then ended.

(Forward)

Report on Other Legal and Regulatory Requirements

In accordance with the requirements of the Companies Act, 1965 in Malaysia, we also report that:

- (a) in our opinion, the accounting and other records and the registers required by the Act to be kept by the Company and its subsidiaries have been properly kept in accordance with the provisions of the Act;
- (b) we are satisfied that the accounts of the subsidiaries that have been consolidated with the financial statements of the Company are in the form and content appropriate and proper for the purposes of the preparation of the financial statements of the Group, and we have received satisfactory information and explanations as required by us for these purposes; and
- (c) the auditors' report on the accounts of the subsidiaries were not subject to any qualification and did not include any comment made under of Section 174(3) of the Act.

Other Matters

This report is made solely to the members of the Company, as a body, in accordance with Section 174 of the Companies Act, 1965 in Malaysia and for no other purpose. We do not assume responsibility towards any other person for the contents of this report.



DELOITTE KASSIMCHAN
AF 0080
Chartered Accountants



KAMARUL BAHARIN BIN TENGKU ZAINAL ABIDIN
Partner - 2903/11/13 (J)
Chartered Accountant

7 May 2012

MALAYSIAN BIOTECHNOLOGY CORPORATION SDN. BHD.
(Incorporated in Malaysia)
AND ITS SUBSIDIARIES

INCOME STATEMENTS
FOR THE YEAR ENDED 31 DECEMBER 2011

	Note	Group		Company	
		2011 RM	2010 RM	2011 RM	2010 RM
Other operating income		49,278,354	45,413,249	48,859,923	44,977,618
Staff costs	4	(27,182,055)	(17,336,132)	(22,255,147)	(17,336,132)
Promotion and corporate communication expenses		(7,489,580)	(8,776,153)	(6,498,488)	(8,577,492)
Administrative expenses		(9,680,400)	(10,422,339)	(7,967,880)	(10,415,362)
Depreciation	7	(2,109,959)	(2,896,705)	(2,069,742)	(2,896,705)
Other operating expenses		(3,280,129)	(1,878,891)	(1,969,632)	(1,878,829)
(Loss)/profit from operations		(463,769)	4,103,029	8,099,034	3,873,098
Interest expense		(6,665)	(18,287)	(6,665)	(18,287)
(Loss)/Profit before tax	5	(470,434)	4,084,742	8,092,369	3,854,811
Tax expense	6	-	(32,745)	-	-
Net (Loss)/Profit after tax		(470,434)	4,051,997	8,092,369	3,854,811
Minority interests		3,304,066	(9,830)	-	-
Net profit for the year		<u>2,833,632</u>	<u>4,042,167</u>	<u>8,092,369</u>	<u>3,854,811</u>

The accompanying Notes form an integral part of the Financial Statements.

MALAYSIAN BIOTECHNOLOGY CORPORATION SDN. BHD.
(Incorporated in Malaysia)
AND ITS SUBSIDIARIES

BALANCE SHEETS
AS OF 31 DECEMBER 2011

	Note	Group		Company	
		2011 RM	2010 RM	2011 RM	2010 RM
ASSETS					
Non-Current Assets					
Property, plant and equipment	7	93,428,013	50,072,679	3,106,773	9,520,839
Technology platform assets	8	45,100,285	24,957,281	45,100,285	24,957,281
Investment in subsidiaries	9	-	-	4	2
Total Non-Current Assets		<u>138,528,298</u>	<u>75,029,960</u>	<u>48,207,062</u>	<u>34,478,122</u>
Current Assets					
Other receivables, deposits and prepayments	10	8,973,660	16,258,970	115,983,497	119,908,518
Cash and bank balances	11	<u>209,328,388</u>	<u>313,480,807</u>	<u>155,759,186</u>	<u>214,703,693</u>
Total Current Assets		<u>218,302,048</u>	<u>329,739,777</u>	<u>271,742,683</u>	<u>334,612,211</u>
Total Assets		<u>356,830,346</u>	<u>404,769,737</u>	<u>319,949,745</u>	<u>369,090,333</u>
EQUITY AND LIABILITIES					
Capital and Reserves					
Share capital	12	95,000,002	95,000,002	95,000,002	95,000,002
Accumulated losses		<u>(19,212,586)</u>	<u>(22,046,218)</u>	<u>(14,044,376)</u>	<u>(22,136,745)</u>
		75,787,416	72,953,784	80,955,626	72,863,257
Minority interests		<u>39,736,066</u>	<u>35,550,132</u>	-	-
Total Equity		<u>115,523,482</u>	<u>108,503,916</u>	<u>80,955,626</u>	<u>72,863,257</u>

(Forward)

	Note	Group		Company	
		2011 RM	2010 RM	2011 RM	2010 RM
Non-Current Liabilities					
Deferred income	13	196,035,996	223,105,529	196,035,996	223,105,529
Hire-purchase liabilities	14	11,083	30,083	11,083	30,083
Total Non-Current Liabilities		<u>196,047,079</u>	<u>223,135,612</u>	<u>196,047,079</u>	<u>223,135,612</u>
Current Liabilities					
Other payables and accruals	15	45,240,785	73,053,976	42,928,040	73,047,976
Hire-purchase payables - current portion	14	19,000	43,488	19,000	43,488
Tax liability		-	32,745	-	-
Total Current Liabilities		<u>45,259,785</u>	<u>73,130,209</u>	<u>42,947,040</u>	<u>73,091,464</u>
Total Liabilities		<u>241,306,864</u>	<u>296,265,821</u>	<u>238,994,119</u>	<u>296,227,076</u>
Total Equity and Liabilities		<u>356,830,346</u>	<u>404,769,737</u>	<u>319,949,745</u>	<u>369,090,333</u>

The accompanying Notes form an integral part of the Financial Statements.

MALAYSIAN BIOTECHNOLOGY CORPORATION SDN. BHD.
(Incorporated in Malaysia)
AND ITS SUBSIDIARIES

**STATEMENTS OF CHANGES IN EQUITY
FOR THE YEAR ENDED 31 DECEMBER 2011**

Group	<i>Attributable to shareholders of the Company</i>			Minority Interest RM	Total Equity RM
	Share Capital RM	Accumulated Losses RM	Total RM		
At 1 January 2010	95,000,002	(26,088,385)	68,911,617	15,794	68,927,411
Subscription of shares by minority shareholder	-	-	-	35,524,508	35,524,508
Net profit for the year	-	4,042,167	4,042,167	9,830	4,051,997
At 31 December 2010/ 1 January 2011	95,000,002	(22,046,218)	72,953,784	35,550,132	108,503,916
Subscription of shares by minority shareholder	-	-	-	7,490,000	7,490,000
Net profit for the year	-	2,833,632	2,833,632	(3,304,066)	(470,434)
At 31 December 2011	<u>95,000,002</u>	<u>(19,212,586)</u>	<u>75,787,416</u>	<u>39,736,066</u>	<u>115,523,482</u>
Company			Share Capital RM	Accumulated Losses RM	Total RM
At 1 January 2010			95,000,002	(25,991,556)	69,008,446
Net profit for the year			-	3,854,811	3,854,811
At 31 December 2010/1 January 2011			95,000,002	(22,136,745)	72,863,257
Net profit for the year			-	8,092,369	8,092,369
At 31 December 2011			<u>95,000,002</u>	<u>(14,044,376)</u>	<u>80,955,626</u>

The accompanying Notes form an integral part of the Financial Statements.

MALAYSIAN BIOTECHNOLOGY CORPORATION SDN. BHD.
(Incorporated in Malaysia)
AND ITS SUBSIDIARIES

**CASH FLOW STATEMENTS
FOR THE YEAR ENDED 31 DECEMBER 2011**

	Group		Company	
	2011 RM	2010 RM	2011 RM	2010 RM
CASH FLOWS FROM OPERATING ACTIVITIES				
Net (Loss)/Profit after tax	(470,434)	4,051,997	8,092,369	3,854,811
Adjustments for:				
Tax expense	-	32,745	-	-
Depreciation of property, plant and equipment	2,109,959	2,896,705	2,069,742	2,896,705
Amortisation of technology platform assets	1,763,367	677,058	1,763,367	677,058
Allowance for doubtful debts/ (Reversal of allowance)	177,788	(82,527)	177,788	(82,527)
Interest expense	6,665	18,287	6,665	18,287
Bad debts written off	4,333	-	4,333	-
Amortisation of government grants	(48,413,134)	(67,293,917)	(48,413,134)	(67,293,917)
Interest income	(13,043,594)	(9,210,705)	(10,484,165)	(8,796,075)
Interest income on intercompany loan	-	-	(2,151,698)	-
Provision for accumulating compensated absences	(34,617)	79,374	(34,617)	79,374
Operating loss before working capital changes	(57,899,667)	(68,830,983)	(48,969,350)	(68,646,284)
Changes in working capital:				
Other receivables, deposits and prepayments	13,618,583	1,044,066	13,855,730	1,044,066
Other payables and accruals	(1,195,666)	458,215	(3,502,410)	454,215
Cash Used In Operations	(45,476,750)	(67,328,702)	(38,616,030)	(67,148,003)
Tax paid	(32,745)	-	-	-
Net Cash Used In Operating Activities	(45,509,495)	(67,328,702)	(38,616,030)	(67,148,003)

(Forward)

	Group		Company	
	2011 RM	2010 RM	2011 RM	2010 RM
CASH FLOWS FROM INVESTING ACTIVITIES				
Purchase of property, plant and equipment	(51,314,977)	(45,354,582)	(1,505,360)	(4,802,742)
Acquisition of technology licenses and equipment	(13,379,639)	(2,359,773)	(13,379,639)	(2,359,773)
Interest received	8,737,238	8,438,736	6,068,089	8,196,216
Acquisition of shares in a subsidiary	-	-	(2)	-
Advances to subsidiaries	-	-	(1,336,019)	(103,640,660)
Net Cash Used In Investing Activities	<u>(55,957,378)</u>	<u>(39,275,619)</u>	<u>(10,152,931)</u>	<u>(102,606,959)</u>
CASH FLOWS FROM FINANCING ACTIVITIES				
Developmental government grants received	5,000,000	47,507,000	5,000,000	47,507,000
Non-developmental government grants received	26,587,292	19,407,933	26,587,292	19,407,933
Developmental grants disbursed	(41,712,685)	(49,740,690)	(41,712,685)	(49,740,690)
Hire purchase repayments	(43,488)	(112,046)	(43,488)	(112,046)
Interest paid	(6,665)	(18,287)	(6,665)	(18,287)
Subscription of ordinary shares by minority shareholder	7,490,000	360,000	-	-
Subscription of Redeemable Convertible Preferences Shares ("RCPS") by minority shareholder	-	35,164,508	-	-
Net Cash (Used In)/From Financing Activities	<u>(2,685,546)</u>	<u>52,568,418</u>	<u>(10,175,546)</u>	<u>17,043,910</u>

(Forward)

	Note	Group		Company	
		2011 RM	2010 RM	2011 RM	2010 RM
NET DECREASE IN CASH AND CASH EQUIVALENTS		(104,152,419)	(54,035,903)	(58,944,507)	(152,711,052)
CASH AND CASH EQUIVALENTS AT BEGINNING OF YEAR		<u>313,480,807</u>	<u>367,516,710</u>	<u>214,703,693</u>	<u>367,414,745</u>
CASH AND CASH EQUIVALENTS AT END OF YEAR	11	<u>209,328,388</u>	<u>313,480,807</u>	<u>155,759,186</u>	<u>214,703,693</u>

Cash and cash equivalents comprise:

	Group		Company	
	2011 RM	2010 RM	2011 RM	2010 RM
Cash and bank balances	12,780,415	7,842,807	9,225,186	6,065,693
Deposits placed with licensed financial institutions	<u>196,547,973</u>	<u>305,638,000</u>	<u>146,534,000</u>	<u>208,638,000</u>
	<u>209,328,388</u>	<u>313,480,807</u>	<u>155,759,186</u>	<u>214,703,693</u>

The accompanying Notes form an integral part of the Financial Statements.

MALAYSIAN BIOTECHNOLOGY CORPORATION SDN. BHD.
(Incorporated in Malaysia)
AND ITS SUBSIDIARIES

**NOTES TO THE FINANCIAL STATEMENTS
FOR THE YEAR ENDED 31 DECEMBER 2011**

1. GENERAL INFORMATION

The Company is a private limited liability company, incorporated and domiciled in Malaysia.

The Company is principally engaged to act as a dedicated and professional one-stop agency for the government in developing biotechnology industry in the country whilst the principal activities of the subsidiaries are as stated in Note 9. There have been no significant changes in the nature of these principal activities during the year.

The total number of employees of the Group and of the Company at year end were 207 (2010: 186) and 172 (2010: 186) respectively.

The registered office and principal place of business of the Company is located at Level 23, Menara Atlan, 161B, Jalan Ampang, 50450 Kuala Lumpur.

The financial statements of the Group and of the Company have been authorised by the Board of Directors for issuance on 7 May 2012.

2. BASIS OF PREPARATION OF THE FINANCIAL STATEMENTS

The financial statements of the Group and of the Company have been prepared in accordance with the provisions of the Companies Act, 1965 and Private Entity Reporting Standards in Malaysia.

3. SIGNIFICANT ACCOUNTING POLICIES

Basis of Accounting

The financial statements of the Group and of the Company have been prepared under the historical cost convention. Historical cost is generally based on the fair value of the consideration involved in exchange for assets and liabilities.

Basis of Consolidation

Subsidiaries

Subsidiaries are entities, including unincorporated entities, controlled by the Group. Control exists when the Group has the ability to exercise its power to govern the financial and operating policies of an entity so as to obtain benefits from its activities. In assessing control, potential voting rights that presently are exercisable are taken into account. Subsidiaries are consolidated using the purchase method of accounting.

Under the purchase method of accounting, the financial statements of subsidiaries are included in the consolidated financial statements from the date that control commences until the date that control ceases.

Investments in subsidiaries are stated in the Company's balance sheet at cost less any impairment losses.

Minority interest

Minority interest at the balance sheet date, being the portion of the net identifiable assets (excluding goodwill) of subsidiaries attributable to equity interests that are not owned by the Company, whether directly or indirectly through subsidiaries, are presented in the consolidated balance sheet and statement of changes in equity within equity, separately from equity attributable to the equity shareholders of the Company. Minority interest in the results of the Group are presented on the face of the consolidated income statement as an allocation of the total profit or loss for the year between minority interest and the equity shareholders of the Company.

Where losses applicable to the minority exceed the minority's interest in the equity of a subsidiary, the excess, and any further losses applicable to the minority, are charged against the Group's interest except to the extent that the minority has a binding obligation to, and is able to, make additional investment to cover the losses. If the subsidiary subsequently reports profits, the Group's interest is allocated with all such profits until the minority's share of losses previously absorbed by the Group has been recovered.

Transactions eliminated on consolidation

Intra-group balances and transactions, and any unrealised income and expenses arising from intra-group transactions, are eliminated in preparing the consolidated financial statements.

Foreign Currency Conversion

Transactions in foreign currencies are converted into Ringgit Malaysia at the exchange rates prevailing at the transaction dates. Foreign currency assets and liabilities at financial year-end are converted into Ringgit Malaysia at the exchange rates prevailing at the balance sheet date. All foreign exchange gains or losses are taken up in the income statements.

The principal closing rates used in the translation of foreign currency amounts are as follows:

	2011 RM	2010 RM
1 United States Dollar	3.17	3.08
1 Euro	4.11	4.08
1 Canadian Dollar	3.10	3.08

Income Tax

Income tax comprises current and deferred tax. Current tax is the expected amount of income taxes payable in respect of the taxable profit for the year and is measured using the tax rates that have been enacted or substantively enacted by the balance sheet date.

Deferred tax is provided for, using the 'liability' method, on temporary differences at the balance sheet date between the tax bases of assets and liabilities and their carrying amounts in the financial statements. In principle, deferred tax liabilities are recognised for all taxable temporary differences and deferred tax assets are recognised for all deductible temporary differences, unused tax losses and unused tax credits to the extent that it is probable that future taxable profit will be available against which the deductible temporary differences, unused tax losses and unused tax credits can be utilised. Deferred tax is not recognised if the temporary difference arises from goodwill or from the initial recognition of an asset or liability in a transaction which is not a business combination and at the time of the transaction, affects neither the accounting profit nor taxable profit.

The carrying amount of deferred tax assets is reviewed at each balance sheet date and reduced to the extent that it is no longer probable that sufficient future taxable profit will be available to allow all or part of the asset to be recovered.

Deferred tax is measured at the tax rates that are expected to apply in the year when the asset is realised or the liability settled, based on tax rates that have been enacted or substantively enacted by the balance sheet date. Deferred tax is recognised in the income statements, except when it arises from a transaction which is recognised directly in equity, in which case the deferred tax is also charged or credited directly in equity, or when it arises from a business combination that is an acquisition, in which case the deferred tax is included in the resulting goodwill.

Impairment of Assets Excluding Goodwill

At each balance sheet date, the Group reviews the carrying amounts of its non-current assets to determine whether there is any indication that those assets have suffered an impairment loss. If any such indication exists, the recoverable amount of the asset is estimated in order to determine the extent of the impairment loss (if any). Where it is not possible to estimate the recoverable amount of an individual asset, the Group estimates the recoverable amount of the cash-generating unit to which the asset belongs.

Recoverable amount is the higher net selling price less costs to sell and value-in-use. In assessing value-in-use, the estimated future cash flows are discounted to their present value using a pre-tax discount rate that reflects current market assessments of the time value of money and the risks specific to the asset.

If the recoverable amount of an asset (or cash-generating unit) is estimated to be less than its carrying amount, the carrying amount of the asset (or cash-generating unit) is reduced to its recoverable amount. An impairment loss is recognised immediately in the income statements.

Where an impairment loss subsequently reverses, the carrying amount of the asset (or cash-generating unit) is increased to the revised estimate of its recoverable amount, but the increased carrying amount should not exceed the carrying amount that would have been determined had no impairment loss been recognised for the asset (or cash-generating unit) in prior years. A reversal of an impairment loss is recognised immediately in the income statements.

Property, Plant and Equipment

Property, plant and equipment are stated at cost less accumulated depreciation and any impairment losses.

Depreciation of property, plant and equipment, other than freehold land, construction and other work in-progress which are not depreciated, is computed on the straight-line method at the following annual rates based on the estimated useful lives of the various assets:

Office equipment	20%
Computer equipment	33 1/3%
Furniture and fittings	20%
Motor vehicles	20%
Renovation	20%

Properties in the course of construction are carried at cost, less any impairment loss. Cost includes professional fees and any incidental expenditure that is directly attributable to the assets. Freehold land and property, plant and equipment under construction are not depreciated.

The residual value, estimated useful life and depreciation method of property, plant and equipment are reviewed at each balance sheet date and, if expectations differ from previous estimates, the changes will be accounted for as a change in an accounting estimate.

Gain or loss arising from the disposal of an asset is determined as the difference between the net disposal proceeds and the carrying amount of the asset, and is recognised in the income statements.

Assets Acquired Under Hire-Purchase Arrangements

Assets acquired under hire-purchase arrangements are capitalised in the financial statements and the corresponding obligations are treated as liabilities. Finance charges are allocated to the income statements to give a constant periodic rate of interest on the remaining hire-purchase liabilities.

Technology Platform Assets

Patent and licenses

Patent, licenses and other similar purchased rights of technology platform are recognised as intangible assets if it is probable that the future economic benefits that are attributable to such assets will flow to the Company and the cost of such assets can be reliably measured.

Intangible asset is stated at cost less accumulated amortisation and impairment losses.

Subsequent expenditure on capitalised intangible assets is capitalised only when it increases the future economic benefits embodied in the specific asset to which it relates. All other expenditures are expensed as incurred.

Amortisation is charged to the income statements on a straight-line basis over the estimated useful lives of intangible assets unless such lives are indefinite. Intangible assets with indefinite useful lives are tested for impairment annually and whenever there is an indication that they may be impaired. Intangible assets are amortised from the date that they are available for use. The estimated useful lives of the intangible assets are determined based on the estimated life span of the patent, licences or rights of the technology platform. The estimated useful lives for the current financial year is between 5 to 25 years.

Amortisation methods, useful lives and residual values are reviewed at the end of each reporting period and adjusted, if appropriate.

Technology platform equipment

Technology platform equipment are stated at cost less accumulated amortisation and any impairment losses.

Amortisation of technology platform equipment is computed on the straight-line method for a period of 5 years based on the estimated useful lives of the equipment.

Employee Benefits

(i) Short term employee benefits

Wages, salaries, bonuses and social security contributions are recognised as an expense in the year in which the associated services are rendered by employees of the Company. Short term accumulating compensated absences such as paid annual leaves are recognised when services are rendered by employees that increase their entitlement to future compensated absences.

(ii) Defined contribution plan

As required by law, companies in Malaysia make contributions to the Employees Provident Fund ("EPF"). Such contributions are recognised as an expense in the income statements as incurred.

Other receivables, deposits and prepayments

Other receivables, deposits and prepayments are stated at cost net of allowance for doubtful debts.

Liabilities and provision

Other payables and accruals are stated at cost.

Provision for liabilities are recognised when the Company has a present obligation as a result of a past event and it is probable that an outflow of resources embodying economic benefits will be required to settle the obligation, and a reliable estimate of the amount can be made. Provisions are reviewed at each balance sheet date and adjusted to reflect the current best estimate.

Cash Flow Statements

The Group and the Company adopt the indirect method in the preparation of the cash flow statements.

Cash equivalents are short-term, highly liquid investments that are readily convertible to cash with insignificant risks of changes in value.

Cash and cash equivalents

Cash and cash equivalents consist of cash in hand, balances and deposits with licensed financial institutions.

Income

(i) Services

Income from services rendered is recognised net of discounts in the income statements as and when services are performed.

(ii) Interest income

Interest income is recognised in the income statements as and when there is reasonable assurance that it will be received.

Expenses

Operating lease payments

Payments made under operating leases are recognised in the income statements on a straight-line basis over the term of the lease. Lease incentives received are recognised in the income statement as an integral part of the total lease payments made.

Government grants

Government grant is recognised initially as deferred income when there is reasonable assurance that it will be received and that the Company will comply with the conditions associated with the grant. Grants that compensate the Company for expenses incurred are recognised in the income statements over the period necessary to match them with the related costs that they are intended to compensate. Grants that compensate the Company for the cost of an asset are recognised in the income statements on a systematic basis over the useful life of the asset.

4. STAFF COSTS

	Group		Company	
	2011 RM	2010 RM	2011 RM	2010 RM
Directors' remunerations:				
Employees Provident Fund	251,138	119,760	137,925	119,760
Other emoluments	1,411,125	891,077	888,748	891,077
Employees Provident Fund	3,147,122	2,166,363	2,681,336	2,166,363
Salaries and other staff costs	22,407,287	14,079,558	18,581,755	14,079,558
Provision for accumulating compensated absences	(34,617)	79,374	(34,617)	79,374
	<u>27,182,055</u>	<u>17,336,132</u>	<u>22,255,147</u>	<u>17,336,132</u>

5. (LOSS)/PROFIT BEFORE TAX

(Loss)/Profit before tax is arrived at after (charging)/crediting the followings:

	Note	Group		Company	
		2011 RM	2010 RM	2011 RM	2010 RM
Audit fee		(31,000)	(26,000)	(20,000)	(20,000)
Rental of premises		(3,607,802)	(3,765,169)	(3,148,909)	(3,765,169)
Amortisation of technology platform assets	8	(1,763,367)	(677,058)	(1,763,367)	(677,058)
Lease rental		(320,062)	(325,923)	(275,850)	(325,923)
Allowance for doubtful debts		(177,778)	82,527	(177,788)	82,527
Interest expense		(6,665)	(18,287)	(6,665)	(18,287)
Bad debts written off		(4,333)	-	(4,333)	-
Interest income on:					
Fixed deposits		13,043,594	9,210,706	10,484,165	8,796,075
Amount due from subsidiary		-	-	2,151,698	-

(Forward)

	Note	Group		Company	
		2011 RM	2010 RM	2011 RM	2010 RM
Amortisation of developmental grants	13	12,836,100	31,294,720	12,836,100	31,294,720
Amortisation of non-developmental grants	13	35,577,034	35,999,197	35,577,034	35,999,197
Realised gain/(loss) on foreign exchange		590,836	(3,172)	590,836	(3,172)

6. TAX EXPENSE

	Group		Company	
	2011 RM	2010 RM	2011 RM	2010 RM
Estimated current year tax payable	-	32,745	-	-

The total charge for the year can be reconciled to the accounting profit as follows:

	Group		Company	
	2011 RM	2010 RM	2011 RM	2010 RM
(Loss)/Profit before tax	(470,434)	4,084,742	8,092,369	3,854,811
Tax at statutory tax rate of 25%	(117,608)	1,021,186	2,023,092	963,703
Tax effects of:				
Expenses not deductible for tax purposes	29,285	18,415	-	-
Income not taxable for tax purpose	(1,930,662)	(1,006,856)	(2,006,321)	(963,703)
Realisation of deferred tax previously not recognised	-	-	(16,771)	-
Deferred tax assets not recognised	2,018,985	-	-	-
Tax expense for the year	-	32,745	-	-

(Forward)

The Company has been granted a tax exemption on its statutory income under subsection 127 (3A) Income Tax Act 1967 (for all sources of income except for dividend income) for the period of 5 years commencing from year of assessment 2006 to 2011. In previous financial year, the Company has been granted an extension for the period of 5 years commencing from year of assessment 2011 to 2015.

No deferred tax has been recognised for the following items:

	Group		Company	
	2011 RM	2010 RM	2011 RM	2010 RM
Temporary differences arising from property, plant and equipment	(714,054)	(874,530)	(714,054)	(874,530)
Unutilised tax losses	38,505,699	30,362,673	30,362,673	30,362,673
Unutilised capital allowance	2,166,316	2,393,877	2,166,316	2,393,877
	<u>39,957,961</u>	<u>31,882,020</u>	<u>31,814,935</u>	<u>31,882,020</u>

The unutilised tax losses and deductible temporary differences do not expire under current tax legislation. Deferred tax assets have not been recognised in respect of these items because it is not probable that future taxable profit will be available against which the Group and the Company can utilise the benefits.

7. PROPERTY, PLANT AND EQUIPMENT

Group	Freehold land	Office equipment	Computer equipment	Furniture and fittings	Motor vehicles	Renovation	Construction and other work-in progress	Total
Cost	RM	RM	RM	RM	RM	RM	RM	RM
As of 1 January 2010	-	919,088	8,004,627	1,279,384	813,889	-	3,322,409	14,339,397
Additions	36,524,927	230,564	1,006,620	837,709	-	-	6,754,762	45,354,582
Reclassification	-	37,593	17,400	99,041	-	-	(154,034)	-
As of 31 December 2010/ 1 January 2011	36,524,927	1,187,245	9,028,647	2,216,134	813,889	-	9,923,137	59,693,979
Additions	5,469,649	89,677	1,026,179	263,293	-	286,091	44,180,088	51,314,977
Reclassification	-	-	22,000	-	-	-	(22,000)	-
Transfer to Technology Platform Assets (Note 8)	-	-	-	-	-	-	(5,849,684)	(5,849,684)
As of 31 December 2011	<u>41,994,576</u>	<u>1,276,922</u>	<u>10,076,826</u>	<u>2,479,427</u>	<u>813,889</u>	<u>286,091</u>	<u>48,231,541</u>	<u>105,159,272</u>

(Forward)

Group	Freehold land RM	Office equipment RM	Computer equipment RM	Furniture and fittings RM	Motor vehicles RM	Renovation RM	Construction and other work-in progress RM	Total RM
Accumulated Depreciation								
As of 1 January 2010	-	587,210	4,743,106	922,827	471,452	-	-	6,724,595
Charge for the year	-	191,255	2,220,805	332,531	152,114	-	-	2,896,705
As of 31 December 2010/ 1 January 2011	-	778,465	6,963,911	1,255,358	623,566	-	-	9,621,300
Charge for the year	-	154,962	1,532,027	318,198	75,969	28,803	-	2,109,959
As of 31 December 2011	-	933,427	8,495,938	1,573,556	699,535	28,803	-	11,731,259
Net Book Value								
As of 31 December 2011	41,994,576	343,495	1,580,888	905,871	114,354	257,288	48,231,541	93,428,013
As of 31 December 2010	36,524,927	408,780	2,064,736	960,776	190,323	-	9,923,137	50,072,679

Company	Office equipment RM	Computer equipment RM	Furniture and fittings RM	Motor vehicles RM	Work-in progress RM	Total RM
Cost						
As of 1 January 2010	919,088	8,004,627	1,279,384	813,889	3,322,409	14,339,397
Additions	230,564	1,006,620	837,709	-	2,727,849	4,802,742
Reclassification	37,593	17,400	99,041	-	(154,034)	-
As of 31 December 2010/ 1 January 2011	1,187,245	9,028,647	2,216,134	813,889	5,896,224	19,142,139
Additions	76,773	1,023,804	213,383	-	191,400	1,505,360
Reclassification	-	22,000	-	-	(22,000)	-
Transfer to Technology Platform Assets (Note 8)	-	-	-	-	(5,849,684)	(5,849,684)
As of 31 December 2011	1,264,018	10,074,451	2,429,517	813,889	215,940	14,797,815

Company	Office equipment RM	Computer equipment RM	Furniture and fittings RM	Motor vehicles RM	Work-in progress RM	Total RM
Accumulated Depreciation						
As of 1 January 2010	587,210	4,743,106	922,827	471,452	-	6,724,595
Charge for the year	191,255	2,220,805	332,531	152,114	-	2,896,705
As of 31 December 2010/ 1 January 2011	778,465	6,963,911	1,255,358	623,566	-	9,621,300
Charge for the year	153,926	1,531,540	308,307	75,969	-	2,069,742
As of 31 December 2011	932,391	8,495,451	1,563,665	699,535	-	11,691,042
Net Book Value						
As of 31 December 2011	331,627	1,579,000	865,852	114,354	215,940	3,106,773
As of 31 December 2010	408,780	2,064,736	960,776	190,323	5,896,224	9,520,839

As at 31 December 2011, the net book value of motor vehicles of the Group and of the Company that were acquired by means of hire-purchase arrangements is RM31,254 (2010: RM77,894).

Included in property, plant and equipment of the Group and the Company are fully depreciated assets, which are still in use, with cost amounting to RM8,942,443 (2010: RM7,172,758).

8. TECHNOLOGY PLATFORM ASSETS

	Group/Company	
	2011	2010
	RM	RM
(a) Technology patent and licenses		
Technology patent and licenses, at cost	30,660,035	25,747,182
As of 1 January	24,957,281	23,274,566
Additions	4,912,853	2,359,773
Less: Amortisation to income statements	29,870,134 (1,206,175)	25,634,339 (677,058)
As of 31 December	<u>28,663,959</u>	<u>24,957,281</u>
(b) Technology platform equipment		
Technology platform equipment, at cost	16,993,518	-
As of 1 January	-	-
Additions	11,143,834	-
Transfer from property, plant and equipment (Note 7)	5,849,684	-
Less: Amortisation to income statements	16,993,518 (557,192)	-
As of 31 December	<u>16,436,326</u>	-
Total Technology Platform Assets	<u>45,100,285</u>	<u>24,957,281</u>

Technology platform assets comprises patent, licenses and equipments acquired under the 9th Malaysia Plan (“RMK-9”) program under the Biotechnology Acquisition Program. The completion of the various technologies is based on the fulfillment of specific terms and conditions as stated under the individual agreement. Technology platform assets are amortised on a straight line basis over its estimated useful lives when the asset is available for use.

9. INVESTMENT IN SUBSIDIARIES

	Company	
	2011 RM	2010 RM
Unquoted shares, at cost	4	2

During the financial year, the Company incorporated BiotechCorp Technology Management Sdn. Bhd by holding the entire issued share capital comprising of 2 ordinary shares of RM1 each.

The subsidiary companies are as follows:

Name of Subsidiary	Country of incorporation	Effective equity interest		Principal activity
		2011 %	2010 %	
BiotechCorp Investment Holdings Sdn. Bhd.	Malaysia	100	100	Investment holding
BiotechCorp Technology Management Sdn. Bhd.	Malaysia	100	-	Investment holding
Subsidiary of BiotechCorp Investment Holdings Sdn. Bhd.				
Malaysian Bio-XCell Sdn. Bhd.	Malaysia	60	60	Development and operation of biotechnology park
Subsidiaries of BiotechCorp Technology Management Sdn. Bhd.				
BiotechCorp Nanotech Solutions Sdn. Bhd.	Malaysia	100	-	Commercialisation of Nanotechnology platform in non-cancer applications
BiotechCorp Diagnostic Solutions Sdn. Bhd	Malaysia	100	-	Commercialisation of DotScan™ antibody microarray diagnostic technology platform
BiotechCorp Supercritical Solutions Sdn. Bhd.	Malaysia	100	-	Commercialisation of Supercritical Fluid Extraction technology platform
BiotechCorp Molecular Solutions Sdn. Bhd.	Malaysia	100	-	Commercialisation of Marker Assisted Selection technology platform

All the subsidiaries are audited by Deloitte KassimChan.

10. OTHER RECEIVABLES, DEPOSITS AND PREPAYMENTS

Other receivables, deposits and prepayments consist of:

	Group		Company	
	2011 RM	2010 RM	2011 RM	2010 RM
Other receivables	7,653,419	15,672,701	7,557,736	15,500,591
Less: Allowance for doubtful debts	(179,438)	(1,088,736)	(179,438)	(1,088,736)
	7,473,981	14,583,965	7,378,298	14,411,855
Prepayments	452,225	650,190	378,491	650,190
Sundry deposits	1,047,454	1,024,815	917,333	1,024,815
Amount due from subsidiaries	-	-	107,309,375	103,821,658
	<u>8,973,660</u>	<u>16,258,970</u>	<u>115,983,497</u>	<u>119,908,518</u>

The amount due from subsidiaries are non-trade in nature, unsecured and repayable on demand.

During the financial year, other receivables amounting to RM1,087,086 (2010 : Nil) has been written off against allowance for doubtful debts.

All the amount due from subsidiaries are interest-free except for an amount of RM41,186,520 (2010 : Nil) that bears interest at 4.5% per annum. Interest income of RM2,151,698 (2010 : Nil) has been recognised in the income statement of the Company as disclosed in Note 5.

11. CASH AND BANK BALANCES

Cash and cash equivalents included in the cash flow statements comprise the following balance sheet amounts:

	Group		Company	
	2011 RM	2010 RM	2011 RM	2010 RM
Cash and bank balances	12,780,415	7,842,807	9,225,186	6,065,693
Fixed deposits with licensed institutions	<u>196,547,973</u>	<u>305,638,000</u>	<u>146,534,000</u>	<u>208,638,000</u>
	<u>209,328,388</u>	<u>313,480,807</u>	<u>155,759,186</u>	<u>214,703,693</u>

Included under cash and cash equivalents of the Group and of the Company are amounts represent unutilised disbursement for the purposes of developmental projects amounting to RM78,058,388 (2010 : RM153,061,304)

The average effective interest rates for the abovementioned deposits in the range of 2.85% to 3.6% (2010 : 2.85% to 3.1%) per annum.

12. SHARE CAPITAL

	Group and Company	
	2011 RM	2010 RM
Authorised:		
100,000,000 ordinary shares of RM1 each	<u>100,000,000</u>	<u>100,000,000</u>
Issued and fully paid:		
95,000,002 ordinary shares of RM1 each	<u>95,000,002</u>	<u>95,000,002</u>

13. DEFERRED INCOME

	Group and Company	
	2011 RM	2010 RM
a) Developmental Grants		
As of 1 January	213,353,998	239,380,486
Received/(reclassified) during the year:		
IP Research and Management Program ("IPRM")	(7,000,000)	(5,600,000)
Biotechnology Acquisition Program ("BAP")	-	(12,700,000)
Biotechnology Commercialisation Grant ("BCG")	-	44,807,000
Biotechnology Entrepreneur Program ("BEP")	-	5,898,750
Biotechnology Entrepreneurship Training Program ("BeST")	-	6,450,000
BioNexus Partners Program ("BNP")	-	8,651,250
Biotechnology Park ("Bio-XCell")	7,000,000	-
Biotechnology Commercialisation Fund ("BCF")	5,000,000	-
	<u>218,353,998</u>	<u>286,887,486</u>
Less: Commercialisation grants awarded	(6,707,832)	(41,964,436)
BNP grants awarded	(5,744,898)	(274,332)
Interest income from deposit placement recognised to income statements	(4,703,669)	-
	<u>201,197,599</u>	<u>244,648,718</u>
Less: Amortisation to income statements	(12,836,100)	(31,294,720)
As of 31 December	<u>188,361,499</u>	<u>213,353,998</u>
b) Non-developmental Grants		
As of 1 January	9,751,531	12,560,728
Additions during the year	33,500,000	33,190,000
Less: Amortisation to income statements	(35,577,034)	(35,999,197)
As of 31 December	<u>7,674,497</u>	<u>9,751,531</u>
Total Deferred Income	<u>196,035,996</u>	<u>223,105,529</u>

The Company was awarded with government grants for the following purposes:

a) Developmental Grants

Intellectual Property Research and Management Program comprises a series of programs that are targeted to enhance the efficiency and effectiveness of intellectual property management and protection in Malaysia.

Biotechnology Acquisition Grant provides funding for the acquisition of enabling and platform technologies within the biotechnology industry.

Biotechnology Commercialisation Program provides funding to facilitate the establishment of biotechnology start-ups. The Biotechnology Commercialisation Grant (“BCG”) comprises Seed Funding, R&D Matching Funding and International Business Development Matching Funding. The Biotechnology Commercialisation Fund (“BCF”) provides soft loan to qualified biotechnology business.

Biotechnology Entrepreneur Program seeks to develop biotechnology entrepreneurs by providing the necessary skill sets and knowledge to commence, develop and manage new biotechnology ventures.

Biotechnology Entrepreneurship Training Program (“BeST”) is an intensive and structured training program for biotechnology graduates to equip themselves with the necessary knowledge and skills with the aim to provide a competent workforce in the industry.

BioNexus Partner Program (“BNP”) seeks to promote active collaboration between biotechnology companies and universities, research institutes, technology parks and incubators in the country by leveraging the facilities, infrastructure and capabilities available.

Biotechnology Park project is an initiative approved under the Government’s Second Economic Stimulus Package to develop and operate a biotechnology park in Iskandar Malaysia, Johor known as ‘Bio-XCell’.

b) Non-developmental Grants

The non-developmental grant received from the government is to finance the Company’s day-to-day operating activities.

14. HIRE-PURCHASE PAYABLES

Hire-purchase payables consist of the following:

	Group and Company	
	2011 RM	2010 RM
Total outstanding obligations	33,646	83,799
Less: Interest in suspense	(3,563)	(10,228)
Principal outstanding	30,083	73,571
Less: Amount due for settlement within 12 months (shown under current liabilities)	(19,000)	(43,488)
Non-current portion	<u>11,083</u>	<u>30,083</u>

The non-current portion is repayable as follows:

	Group and Company	
	2011 RM	2010 RM
Financial years ending 31 December:		
2012	-	19,000
2013	11,083	11,083
	<u>11,083</u>	<u>30,083</u>

15. OTHER PAYABLES AND ACCRUALS

	Group		Company	
	2011 RM	2010 RM	2011 RM	2010 RM
Developmental grants awarded payables	36,839,896	66,099,850	36,839,896	66,099,850
Other payables	4,796,637	6,389,247	2,867,519	6,389,247
Accruals	<u>3,604,252</u>	<u>564,879</u>	<u>3,220,625</u>	<u>558,879</u>
	<u>45,240,785</u>	<u>73,053,976</u>	<u>42,928,040</u>	<u>73,047,976</u>

The developmental grants awarded payables cover for periods up to 2 years.

16. LEASE COMMITMENTS

Total future minimum lease payments under non-cancellable operating leases are as follows:

	Group		Company	
	2011 RM	2010 RM	2011 RM	2010 RM
Less than one year	3,434,344	3,786,818	3,121,769	3,786,818
Between one and five years	4,334,506	7,465,430	3,867,879	7,465,430
	<u>7,768,850</u>	<u>11,252,248</u>	<u>6,989,648</u>	<u>11,252,248</u>

The lease payments include rental payable and computer equipment under operating leases. The computer equipment leases run for a period of three years. None of the leases include contingent rentals.

17. RELATED PARTY TRANSACTIONS

During the financial year, significant related party transactions which are determined on a basis as negotiated between the Company and its related parties are as follows:

	Company	
	2011 RM	2010 RM
Interest income on intercompany loans	<u>(2,151,698)</u>	<u>-</u>

18. CAPITAL COMMITMENTS

	Group		Company	
	2011 RM	2010 RM	2011 RM	2010 RM
Approved and contracted for:				
Property, plant and equipment	3,663,110	3,500,460	3,663,110	3,500,460
Patent and licenses	5,103,650	9,900,677	5,103,650	9,900,677
Freehold land	37,813,712	33,539,000	-	-
Construction of building	198,919,608	49,550,000	-	-
	<u>245,500,080</u>	<u>96,490,137</u>	<u>8,766,760</u>	<u>13,401,137</u>

	Group		Company	
	2011 RM	2010 RM	2011 RM	2010 RM
Approved but not contracted for:				
Property, plant and equipment	-	11,143,834	-	11,143,834
Freehold land	-	8,494,200	-	-
Construction of building	-	74,100,000	-	-
	<u>-</u>	<u>93,738,034</u>	<u>-</u>	<u>11,143,834</u>
	<u>245,500,080</u>	<u>190,228,171</u>	<u>8,766,760</u>	<u>24,544,971</u>

The capital commitments of the Group and of the Company will be recognised in the financial statements when the goods or works are delivered or completed in accordance to the contract it relates to.

MALAYSIAN BIOTECHNOLOGY CORPORATION SDN. BHD.

(Incorporated in Malaysia)

STATEMENT BY DIRECTORS

The directors of **MALAYSIAN BIOTECHNOLOGY CORPORATION SDN. BHD.** state that, in their opinion, the accompanying financial statements are drawn up in accordance with Private Entity Reporting Standards and the provisions of the Companies Act, 1965 in Malaysia so as to give a true and fair view of the financial position of the Group and of the Company as of 31 December 2011 and of the financial performance and the cash flows of the Group and of the Company for the year ended on that date.

Signed on behalf of the Board
in accordance with a resolution of the Directors,



TAN SRI DATUK DR AHMAD ZAHARUDIN BIN IDRUS




DATO' DR MOHD NAZLEE BIN KAMAL

7 May 2012

MALAYSIAN BIOTECHNOLOGY CORPORATION SDN. BHD.
(Incorporated in Malaysia)

**DECLARATION BY THE OFFICER PRIMARILY RESPONSIBLE FOR THE
FINANCIAL MANAGEMENT OF THE COMPANY**


I, **SYED AGIL BIN SYED HASHIM**, the Officer primarily responsible for the financial management of **MALAYSIAN BIOTECHNOLOGY CORPORATION SDN. BHD.**, do solemnly and sincerely declare that the accompanying financial statements are, in my opinion, correct and I make this solemn declaration conscientiously believing the same to be true, and by virtue of the provisions of the Statutory Declarations Act, 1960.



SYED AGIL BIN SYED HASHIM

Subscribed and solemnly declared by the abovenamed **SYED AGIL BIN SYED HASHIM** at **KUALA LUMPUR** this 7th day of May 2012.

Before me,



COMMISSIONER FOR OATHS







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Malaysian Biotechnology Corporation (BiotechCorp) is a central contact point for biotechnology and life science companies in Malaysia. BiotechCorp is the industry's one-stop-centre providing support, facilitation and advisory services.

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