

SINGAPORE

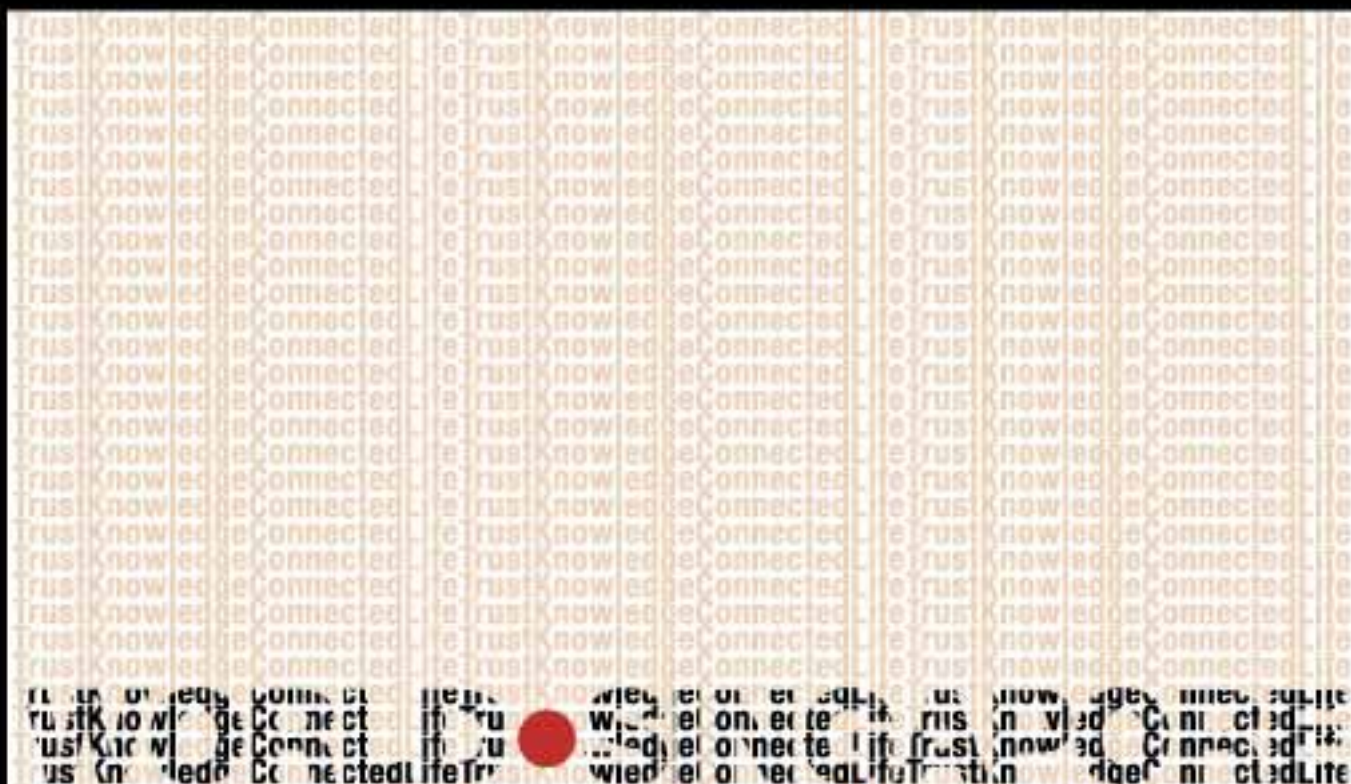
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EDB
SINGAPORE

June 2007

Focusing on Innovation and Investment Opportunities in Singapore

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June 2007

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BIOMEDICAL SCIENCES

GlaxoSmithKline Invests S\$20m In Newly Opened Medicinal Chemistry Laboratory

British global pharmaceutical giant, GlaxoSmithKline (GSK), gave Singapore's biomedical industry a boost when it announced the opening of its new S\$20 million (US\$13.2 million) medicinal chemistry laboratory at its R&D facility in the local biomedical hub, Biopolis.

This new flexi-laboratory enables researchers to adopt a cutting-edge collaborative approach that combines both biology and chemistry research in the same place. GSK believes that by having both biologists and chemists working side by side, the time taken to identify clinical development drug candidates would be substantially reduced.

"Our goal is to identify a clinical development candidate by the end of 2007 and we are on track to achieving that," says Dr Paul Chapman, Director and Head, GSK's Centre for Research in Cognitive and Neurodegenerative Disorders.

They are also looking to increase its stable of researchers to 57, with half of them locally-sourced. "GSK has chosen to increase our presence in Singapore because we are very pleased with our progress to date, and this investment reflects our confidence in the local biomedical research sector," adds Dr Chapman.

CONSUMER & PROFESSIONAL SERVICES

Riken Vitamin's New Application Centre Boosts Specialty Ingredients Industry



Riken Vitamin Co. Ltd, a key global player in the specialty ingredients industry, announced the opening of its new application centre – its first in Singapore – on March 2007, with Lim Siong Guan, Chairman, Singapore Economic

Development Board (EDB), present at the ceremony. The centre, named Rikevita (S) Pte Ltd, is located at Singapore's Science Park, and is the company's largest application centre in Asia.

Riken Vitamin's new centre is expected to be the base to innovate and develop new products and applications for its customers outside of Japan. The application centre would possess the company's core molecular distillation technology, and as such, would have top-of-the-line manufacturing capabilities to service its worldwide clients.

Says Lim, "Riken Vitamin is an important global player in specialty ingredients, a sector the EDB is growing. The new centre, Rikevita, will broaden the base of specialty ingredients companies in Singapore."

The specialty ingredients industry in Singapore has been growing at a compound annual growth rate of 15 per cent in manufacturing output and 17 per cent in value add over the five year period, from 2000 to 2005.



(2nd from left): Professor Chong Tow Chong, Executive Director, A*STAR; BG(NS) Tay Lim Heng, Chief Executive, Maritime & Port Authority of Singapore; Manohar Khiatani, AMD, Industry Development, EDB; to Professor Tan Chorh Chuan, Deputy President and Provost, National University of Singapore (5th from left) during the Programme's launch

TRANSPORT ENGINEERING

NUS Launches New Offshore Technology Research Programme

The National University of Singapore (NUS) launched its new Offshore Technology Research Programme at the University's Centre for Offshore Research & Engineering (CORE) on 22 March 2007. NUS signed a Memorandum of Understanding (MoU) with the Agency for Science, Technology & Research (A*STAR), the Maritime and Port Authority of Singapore (MPA), and the Singapore Economic Development Board (EDB). A*STAR and MPA will each provide research grants of S\$5 million (US\$3.3 million) to CORE over three years, and EDB's contribution will be through its Training and Attachment Programme.

The Offshore Technology Research Programme, managed by CORE, revolves around R&D activities in the area of offshore technology research. This includes Fixed Platforms, Floating Production Systems, Subsea Systems, Sea-floor and Sub-surface Engineering.

"It is evident that R&D will take on an even more significant role in Singapore as demand for oil and gas grows. Similarly, as the extraction of oil and gas expand further to marginal fields, the deeper waters and the arctic regions where climatic conditions are extreme and hazardous, more technological challenges will surface," says Professor Tan Chorh Chuan, Deputy President and Provost, NUS. "We are confident that this multi-agency and multi-disciplinary approach will generate practical solutions to real-life problems and benefit the industry."

BIOMEDICAL SCIENCES

Bio-Rad Opens First Asia-Pacific Manufacturing Facility In Singapore



(L-R) Sam Peper, General Manager, New England Operations, Life Science Division, Bio-Rad Laboratories; Francois Capit, General Manager, Asia Pacific, Bio-Rad Laboratories; Kim Barrier, Chief Information Officer, Bio-Rad Laboratories; Yeoh Keat Chuan, Executive Director, Biomedical Sciences, EDB; Scott Jenest, Manufacturing Operations Manager, Life Science Division, Bio-Rad Laboratories; Annette Tumolo, General Manager, Gene Expression Division, Bio-Rad Laboratories; Jeff Garner, International Manufacturing Manager, Life Science Division, Bio-Rad Laboratories; and Winston Heng, Manufacturing Plant Manager, Asia Pacific Operations, Life Science Division, Bio-Rad Laboratories

Bio-Rad Laboratories, Inc., a multinational manufacturer and distributor of life science research and clinical diagnostics products, held the grand opening of its first Asia-Pacific manufacturing plant in April 2007. Located in Singapore, this new facility occupies approximately 20,000

sq ft of industrial space at Kaki Bukit View. It will engage in the manufacturing of a variety of life science instruments used in medical and biological research labs worldwide.

Its life science products are based on technologies such as electrophoresis, imaging, immunoassay and chromatography amongst others. Such technologies are used to identify, separate, purify and analyse biological materials like protein and DNA. Bio-Rad hopes to help people lead longer, healthier lives through its products.

"With many exciting changes that are taking place in Asia, we felt that Bio-Rad needed a manufacturing facility that was in close proximity to our customers in the Asia-Pacific region," says Scott Jenest, Manufacturing Operations Manager, Life Science Group, Bio-Rad Laboratories. "Singapore's location offers greater access to a strong supply chain in the region, enabling Bio-Rad to support its production facilities on a global basis."

CHEMICALS

Chemical Specialties Limited Sets Up First-Of-Its-Kind Chemical Manufacturing Facility

Formed by a joint venture of individuals with extensive experience in specialty contract manufacturing operations, Chemical Specialties (Singapore) Pte Ltd (CSL) announced its setting up of a specialty chemical contract manufacturing facility in Singapore. Located on Jurong Island, the facility is the first of its kind in the country, and possibly in the Asia-Pacific region.

Phase One of construction has started and is expected to be completed in the fourth quarter of 2007. When built, the Phase One facility will have three 85 MeT capacity reactors and a 115 MeT batch distillation unit while the completed facility will eventually house over 20 reactors ranging from capacities of 20 MeT to 200 MeT.

In providing the region with high quality and cost effective manufacturing services with guaranteed intellectual property protection for its clients, CSL is targeting clients who desire to produce particular products in small quantities, testing new products before full scale production, product development and requiring short term production capacity.

"We are confident that with the anticipated rapid growth of the chemical industry, especially the special chemical sector, in Singapore and the rest of the Asia-Pacific region, CSL will be able to fulfill its overall business objective of providing value-added manufacturing service that will be sought after by our customers," says Jim Clawson, Director, CSL.



EDUCATION

S P Jain Opens First Indian Tertiary Campus In Singapore

There was more than one reason to celebrate at the official opening of S P Jain's Singapore campus. Its presence marks the first Indian tertiary institution to have its own campus in the Republic. What's more, the school's projected first year student enrolment has already been surpassed, with 250 students signed up for its Global MBA programme.

S P Jain is one of India's top business schools offering post-graduate programmes in management, with campuses in Mumbai, Dubai and now, Singapore. The Singapore campus, located at Hyderabad Road, is housed in the former Institute of Dental Health.

"This early accomplishment speaks well of S P Jain's standing among Asian business schools, and probably testifies as well to the draw of the Singapore Education brand," says Tharman Shanmugaratnam, Minister for Education and Second Minister for Finance. "It adds to and complements the range of offerings by other top institutions here. It also deepens the presence of quality Indian institutions in Singapore."

Singapore Has The Most Transparent System In Asia

Singapore continues to fuel investors' confidence when it was ranked the most transparent system in Asia by the IMD World Competitiveness Yearbook 2006. In this, Singapore came out 1st in Asia and 6th in the world.

Results were derived from the Executive Opinion Survey, conducted among 4,055 respondents in top and middle management from the economies covered in this report. These respondents are nationals or expatriates in local and foreign enterprises in a country or region that, in general, is engaged in international trade.

They were also asked to evaluate the present and expected conditions of economic competitiveness in the country which they work and have resided during the past year, as reliable data can be generated from the wealth of their

TRANSPERENCY		
2006 Rankings	Country	Score
1	Denmark	8.29
2	Finland	7.82
3	Iceland	7.32
4	Norway	7.29
5	New Zealand	7.29
6	Singapore	7.19
7	Switzerland	7.05
8	Austria	6.83
9	Australia	6.83
10	Hong Kong	6.62
11	Ireland	6.43
12	Colombia	6.09
13	South Africa	6.06
14	Estonia	6.00
15	Malaysia	5.97
16	Canada	5.95
17	Netherlands	5.89
18	Luxembourg	5.77
19	Sweden	5.76
20	Chile	5.74

Soure: IMD World Competitiveness Yearbook 2006

international experience. The evaluations portray an in-depth knowledge of their particular environment, testifying to the reliability of the survey conducted.



Singapore Ranked Best Air Transport Infrastructure In The World

Singapore has the best air transport infrastructure in the world, according to the Global Competitiveness Report 2006-2007. Coming up tops in this category represents a significant achievement for the Republic in the aerospace industry.

The survey's statistics were compiled from respondents who were asked to assess the condition of their own business environment and to rank their views on a scale of one to eight, where one represents the worst-case scenario and eight the best-case scenario.

In particular, participants of this survey were asked to rate this question: "Is the passenger air transport in your country infrequent/limited/inefficient or frequent/extensive/efficient?" with reference to the countries in which they operate. With this result, the Republic's aerospace industry leaders, while not being complacent, can afford to savour the success of their hard work in the past year.

QUALITY OF AIR TRANSPORT INFRASTRUCTURE		
Rank	Country	Score
1	Singapore	6.9
2	Germany	6.7
3	Hong Kong SAR	6.7
4	Netherlands	6.6
5	France	6.5
6	United Kingdom	6.5
7	United Arab Emirates	6.5
8	Japan	6.4
9	Denmark	6.3
10	Finland	6.3

Soure: Global Competitiveness Report 2006-2007

"World•Singapore": Singapore's New Formula For Growth In Challenging Times

THE EDB'S NINTH IAC MEETING PROVIDED THE PERFECT PLATFORM FOR THE SINGAPORE GOVERNMENT TO ANNOUNCE ITS NEW ROADMAP FOR THE DEVELOPMENT OF THE NATION'S ECONOMY.

The global economy is constantly shifting and the daily challenge of establishing and maintaining an edge over one's competitors is never more pertinent than now. This has been the main concern of the Singapore government, and its executive arm for economic planning and initiatives, the Singapore Economic Development Board (EDB).

With the growing influence of China and India in the Asia region – both economies attract the bulk of foreign investments with its low labour costs and bountiful resources – Singapore will need to change its economic tack in order to ride out the challenges and emerge stronger.

During EDB's ninth International Advisory Council (IAC) meeting held in April, Teo Chee Hean, Minister for Defence and Minister in charge of the Civil Service, outlined the new growth formula that Singapore will be adopting and introduced the all-important concept of 'World•Singapore'. He also explained at length the various implications this new course of action will have on the domestic economic landscape. The following is the complete speech by Minister Teo.

"I am very happy to be here in the company of so many distinguished guests from all over the world for the EDB's ninth IAC meeting. I look forward to the insights of IAC members, which I am sure, will be refreshing and enlightening. On behalf of the Singapore government, I would like to express my appreciation to the members for making time to help Singapore fine-tune our economic policies and development strategies.

"In order that the discussions of the IAC be framed within a strategic context, I would like to share with you Singapore's growth formula going forward, which is invigorating and changing the way we think, work and live. This is a formula that goes beyond economic growth. It leads to what must be the purpose of economic growth, which is to create a secure future, full of hope, opportunity and progress for all Singaporeans.

"Let me start by describing how things began for Singapore. We are a small country with no natural resources - a young nation, just over 40 years old. In the 1960s, during the period before and soon after we left Malaysia in 1965, our unemployment rate was in double digits. Our immediate priority then was to create jobs for our people and hope for the young generation. Industrialisation was our answer to jobs, and education and training our answer for a future of opportunity. Those were the days when many ex-colonies all over the world and only recently independent, were unwelcoming of multinational

corporations (MNCs) because they were seen as 'neo-colonialists', or colonial masters returning in their economic garb.

"Singapore went against popular convention by opening our doors wide to MNCs. American, European and Japanese companies brought in capital, technological know-how, management capabilities and global markets. What Singapore offered were workers grateful for a job, willing to work hard and long, able to learn fast and adapt quickly, and take instructions in English. Add to this capable leadership, political stability, reliable infrastructure, education and skills training, and we have the Singapore formula for economic growth – 'East plus West' – a successful strategy that brought investments and jobs; and peace, prosperity and progress for Singaporeans for many decades.

"The global landscape is, however, changing rapidly. The 'East plus West' formula has worked so well for Singapore that many countries, whose labour costs and land prices are lower, have studied and embraced it. Even as we witness the simultaneous growth of Asia's two economic powerhouses, China and India, there is intensifying competition for resources, investment dollars and global talent amongst developed and emerging economies alike. Competition is intensifying. What this means is Singapore cannot simply stay with the 'East plus West' formula. Businesses facing pressures on their bottom lines will choose to invest where they can make the best profits on a sustained basis. Singapore must offer 'East plus West' plus!

"What should Singapore's new formula be? What makes companies decide in favour of Singapore even if we may be more expensive on specific factors of production, like land or labour? The contents of this formula are not altogether new. We have been evolving many aspects of it and, in fact, already executing some of these strategies. Those of you who have been following our development closely would have seen parts of it in the transformation which began in 2001, when the Economic Review Committee took a hard look at the assumptions underpinning our economic model and made recommendations to restructure

the Singapore economy. We see evidence of this today; from the establishment of the National Research Foundation to boost our R&D efforts, to the strict enforcement of intellectual property protection; from encouraging entrepreneurship to the opening up of creative space in arts and culture.

"This morning, I will speak about what this new formula entails so that there can be better understanding and alignment of the course that Singapore is taking for national growth among the public and private sector, the general public, and our overseas friends. It will provide a good context for the IAC's discussion over the next two days. This will in turn help accelerate our transformation process, so that opportunities may be recognised and taken up more quickly, and all involved are invigorated with a sense of working together for the future of Singapore.

"The new growth formula rests on four attributes, which we may call 'TKCL'. The first is 'Trust' – this expresses the Singapore character of trustworthiness, integrity, quality, reliability, productivity, rule of law, respect for intellectual property, and a strong stand against corruption. Singapore delivers on what we promise; we are people of our word. In a world of uncertainty and volatility, 'trust' is an asset that is much valued.

"The second attribute, 'K', stands for Knowledge. 'Knowledge' expresses Singapore's standing in the knowledge economy, our commitment to high levels of education and skills, complex manufacturing, high value-added services, technological savvy, IT competency, R&D and creativity. It is seen in our emphasis on capital-intensive, knowledge-intensive, and innovation-intensive activities across the entire value chain. This is a knowledge and talent hub where people in different fields create, grow and exchange ideas; where Chinese and Indian companies internationalise; where American and European companies make their entry into Asia; where views on the future of Asia and the growth of China and India can be discussed, with the clarity that comes from being close to the action but distant enough from it to maintain objectivity.



Teo Chee Hean, Chairman, IAC, and Minister for Defence and Minister in charge of the Civil Service, outlining the nation's plans for future economic growth during the meeting

"The next attribute, 'C', stands for Connected. By 'Connected', we mean much more than the physical linkages or market connectivity, which Singapore is well known for. Certainly, being a sea and air hub, and an international financial centre, is critical for Singapore. And the Singapore passport, which allows entry into so many countries without the need for visas, also boosts our attractiveness. But more than these, by 'Connected', we mean the network of family, friends and fans of Singapore. Family is Singaporeans here and abroad whose heart is with the country. Friends and fans are those who have lived, worked, studied, invested, visited, and who have had good experiences in Singapore. So good that they will continue to come, time and again, and also tell their friends to do so. 'Connected' refers to the emotional attachment of family, friends and fans who stand up, speak out and feel for Singapore, and in this way help investors and talent decide in favour of Singapore. We have, in the EDB's IAC members, excellent examples of Singapore's ardent friends and fans.

"At any one time, there are 200,000 or more Singaporeans overseas working, studying or travelling. Last year, we played host to almost 10 million tourists and 170 business conferences. Seven thousand MNCs operate here, with many expatriates who appreciate living in Singapore. Eighty thousand foreign students study here. With such a vast connection of family, friends and fans, we can imagine Singapore amplifying our voice and influence beyond our population of 4.5 million through a worldwide network of 'ambassadors' supporting us; it could be as many as 20 million of them! We should not underestimate the potential of such an idea.

"The last attribute, 'L', stands for Life. 'Life' stands for Singapore being a great place to live, learn, work and play in. Where streets are safe, the community united, people are friendly, the environment [is] clean and green, [where there is] high quality of life, superior education standards, the cultural scene [is] becoming more vibrant, recreational spots [are] easily accessible by air, and [Singapore is] representative of Asia with its diver-

sity of cultures. This is a good place to raise a family - where racial and religious harmony prevail, where a microcosm of Asia can be found, where people from East, South and West Asia feel at home, and those from beyond feel welcome. A place where modernisation and globalisation take place at an urgent pace, where there is an undercurrent of excitement and activity. Where in 10 years, you will see a city radically different in its urban landscape, a global city which all Singaporeans can enjoy, and everyone else must see, taste, and feel.

"Trust'; 'Knowledge'; 'Connected'; 'Life' - this is Singapore's new formula. To put it in simpler terms, 'Trust' is why people come to us. 'Knowledge' will be why they work with us. 'Connected' is why people team up with us. And 'Life' will be why they stay with us.

"The formula first came about from an exercise conducted over several months in 2005 by civil servants from across the government. Trying to answer the question on what should replace our "East plus West" strategy, they spoke to wide swathes of Singapore's society and tapped on their ideas. They visited and studied different cities - including Brussels, Copenhagen, Dubai, Geneva, Hong Kong, Melbourne and Vancouver - to understand why people invested, worked and lived there. They paid particular attention to 'non-customers of Singapore' to understand where Singapore can do better and how they might be attracted to Singapore. They also consulted academics and top private sector CEOs, among them 'friends and fans' of Singapore, to focus thinking, sharpen ideas, and to ensure that they had relevance and resonance. With these inputs, they came up with the themes I have just described, and recommended ideas to further them. They have named the formula 'World•Singapore'.

"You will agree with me that 'World•Singapore' is a catchier name than 'TKCL'. World•Singapore also carries many rich meanings, like:

The World in Singapore
The World with Singapore
The World trusts Singapore

The World connected through Singapore
The World finds opportunities in Singapore

and conversely:

Singapore in the world
Singapore networking with the world
Singapore innovates for the world.

"As our civil service team contemplated the formula, they soon realised that it represents a far deeper idea than a strategy focused only on economic growth. Many aspects – such as fostering emotional attachment and making Singapore a great place to work, live and play – go beyond economic development to also encompass social, community and human development. World•Singapore is therefore a larger framework that offers a compelling vision of hope, opportunity and a brighter future for Singapore.

"Today, the Government has incorporated World•Singapore as a vision for the future – it is the key organising idea that commits all ministries and statutory boards to work together in achieving this vision. Cross-agency teams have also been formed to develop and implement initiatives in support of this formula.

"Some of these initiatives have the potential to create sustained economic advantage for Singapore. For instance, we are beginning to export some of our public sector expertise to other countries. In China, India, Vietnam and the Middle East, our public sector agencies, working with Singapore-based companies, are developing industrial parks and housing estates, building and operating airports, building water treatment plants, advising governments on security and safety issues, and training civil servants and teachers. This export of public sector capabilities can become a key growth area for Singapore, and Singapore-based companies will benefit from the government's forays abroad.

"Other areas are not new, but we have accelerated its development. For example, our strategies to develop Singapore as a global schoolhouse and a


healthcare hub have gathered pace and made new inroads. We have injected new impetus and energy to our efforts to attract talent to Singapore.

"Ladies and gentlemen, I started off this morning by talking about Singapore's first economic growth formula – 'East plus West'. I pointed out that this formula has since been adopted by practically every country serious about economic development. Singapore cannot continue to rely on this formula and expect to win against competition that can offer inputs such as land, labour and resources at lower costs. We need an 'East plus West' plus formula.

"World•Singapore, founded on the attributes of 'Trust', 'Knowledge', 'Connected' and 'Life', is our formula for the future. It builds upon our core strengths to take us to the next level of development. It will not be easy for others to adopt this same formula as it has taken us many years to build up these qualities to a level where they have gained recognition and resonance as those that define Singapore. It will take other countries many years to build up the core elements that are pre-requisites for such a formula.

"We will have to leverage strongly on these attributes: 'Trust', 'Knowledge', 'Connected' and 'Life' – and make the most of them to create opportunities and improve our quality of life, for the benefit of Singaporeans. In many of the areas, to achieve progress, we will have to break away from tried-and-tested approaches, and try something bold and new. We also need to inject a global dimension into the way we think and the way we work.

"You will notice that the 'dot' in World•Singapore is a bold, red dot connecting 'World' and 'Singapore'. That red dot is a reminder to us that we may be a little place, but we have high hopes and dreams that we are going to strive for and achieve.

"Let me thank, once again, all the members of the ninth International Advisory Council for being here to help EDB contemplate its future, and crystallise its direction and priorities." 



Together with the IAC members are Lee Hsien Loong, Prime Minister of Singapore (front row, fourth from right); Lim Hng Kiang, Minister for Trade and Industry (front row, second from left); Lim Siong Guan, Chairman, EDB (back row, first from right); and Ko Kheng Hwa, Managing Director, EDB (back row, first from left)

EDB's International Advisory Council Affirms Singapore's Growth Strategy

THE NINTH IAC MEETING SAW MEMBERS AFFIRMING THE NEW GROWTH FORMULA – WORLD•SINGAPORE – WHILE OFFERING RELEVANT SUGGESTIONS OF THEIR OWN, CONTRIBUTING TO A SUCCESSFUL EVENT.

Singapore, as an established first-world economy, has done more than most, given its limited resources, to reach its current stage of development. And given its achievements, it is easy for the nation to take its foot off the pedal, metaphorically speaking, and be content with the rewards.

However, this is not the case for Singapore. In the recent convening of the Singapore Economic Development Board's (EDB) International Advisory Council (IAC), council members were introduced to Singapore's new growth formula – World•Singapore – and encouraged to share their insights and suggestions to help further develop Singapore's economic standing amidst growing global challenges.

The council members who were in Singapore for the meeting include Koh Boon Hwee, Chairman, DBS Group Holdings and DBS Bank; John M. Allan, Chief Executive, DHL Logistics; Edward Barnholt, former President, Chairman and CEO, Agilent Technologies; 3M Corporate Headquarters; Dr James Canton, Chairman and CEO, Institute for Global Futures; Timothy Draper, Managing Director, Draper Fisher Jurvetson; Gerard Kleisterlee,

President and CEO, Royal Philips Electronics; Robert A. McDonald, Vice Chairman, Global Operations, Proctor & Gamble; Taizo Nishimuro, Advisor to Board, Toshiba Corporation; Ratan N. Tata, Chairman, Tata Group; Sir John Rose, Chief Executive Officer, Rolls-Royce; Dr Rob Routs, Executive Director, Downstream, Royal Dutch Shell; Isaac Stein, Founder and President, Waverly Associates; and Dr Wolfgang Ziebert, President and CEO, Infineon Technologies.

Framing the context of the three-day meeting, the ninth time the IAC has met up, was a key speech outlining the growth formula and charting the course Singapore will take in the coming years. The speech was delivered by IAC's Chairman, Teo Chee Hean, who is also Minister for Defence and Minister in charge of the Civil Service. Based on four attributes – 'Trust', 'Knowledge', 'Connected', and 'Life' – the World•Singapore formula aims to enhance Singapore's existing strengths and unique qualities while moving into new areas of opportunity.

To explain these attributes succinctly, and in the words of Minister Teo, "Trust' is why people come to us. 'Knowledge' will be why they work with us. 'Connected' is why people team up with us. And 'Life' will be why they stay with us."

This was readily affirmed by the suggestions put out by the council members as well. Focusing on three key areas, the council came up with the following ideas:

- Build a strong base of talent
- Build connectedness to economic growth engines and R&D networks
- Build innovative capabilities and a climate for entrepreneurship

STRONG BASE OF TALENT

Recognising that emerging economies around the world are challenging established ones by snapping up talented

workers, the members suggested that Singapore invests in developing local talent and shaping the profile of its workforce. This is primarily to meet the needs of the growing number of knowledge-intensive companies setting up shop locally. Additionally, Singapore should take the initiative in defining the roles of older workers and how they can continue to contribute productively to the economy, thereby alleviating the pressures of an ageing population.

"If there is only one investment that the Singapore government can make, I would encourage them to focus on investments in developing, attracting, and retaining top talent," says Robert A. McDonald, Vice Chairman, Proctor & Gamble. "Top talent can be that which separates Singapore from the rest of the world; I believe this is the key enabler of World•Singapore."

VITAL LINKAGES

The council was also quick to highlight the strategic importance of Singapore's geographic location and the role it can play in facilitating the transfer of knowledge and goods between the two emerging Asian super-powers, India and China, and the West. Building on the attribute of being 'Connected', they advised Singapore to "create and cultivate global networks of experts in innovation and R&D", as it can play the knowledge aggregator role to "adapt technologies and ideas into effective solutions to meet market needs". In order to do this, linkages and relationships have to be developed with companies and governments within the Asia-Pacific region. Taizo Nishimuro,

"Trust' is why people come to us. 'Knowledge' will be why they work with us. 'Connected' is why people team up with us. And 'Life' will be why they stay with us."

– Teo Chee Hean, IAC's Chairman and Minister for Defence and Minister in charge of the Civil Service

Teo Chee Hean, Chairman, IAC, during the ninth IAC meeting



Geographical advantages aside, the country's melting pot of race and culture, as well as its dynamic city lifestyle, is an alluring, exotic mixture that would be a key selling point to draw top talent and entrepreneurs.

Advisor to the Board, Toshiba Corporation, concurs. He says, "Utilising connectivity, as you say, allows Singapore to be the gateway to the region."


INNOVATIVE CAPABILITIES

Lastly, while commending the nation for building up its Intellectual Property (IP) regime to be the best in Asia, according to the Global Competitiveness Report 2006-2007, the council pointed out that the challenge now should go beyond just creating IP, to commercialising it. This can only be done by developing a risk-taking mentality and a desire to learn from past and future failures.

Besides this, the nation has the opportunity to create a unique business proposition based on its environment, energy and urban climate. Geographical advantages aside, the country's melting pot of race and culture, as well as its dynamic city lifestyle, is an alluring, exotic mixture that would be a key selling point to draw top talent and entrepreneurs. The Singapore government's excellent work in managing the city in all aspects can, according to the council, be exportable commodities too. Areas for consideration could include city develop-

ment and management, education, health-care, and water technologies, to name a few.

"Singapore's ageing population represents opportunities for the nation to capture the demand in healthcare services, given that there is a whole new class of people with resources who want high quality health-care services," says Isaac Stein, Founder and President, Waverly Associates, highlighting an example that the city-state would do well to focus on.

It comes as no surprise that at the end of the meeting, Singapore's leaders and policy makers were affirmed in their decision to launch World•Singapore, given that many of the members' suggestions resonated with the proposed growth formula. Commending Singapore's efforts in economic development, and cautioning against conservatism, complacency and being slow to react, the council was unanimous in urging the Republic to concentrate its efforts and resources on specific growth areas, so as to maximise its chances for future success. Sound words of encouragement that should stand the nation in good stead in these challenging times. 

International Advisory Council (full list):

Chairman: Teo Chee Hean, Minister for Defence and Minister in charge of the Civil Service

Vice-Chairman: Koh Boon Hwee, Chairman, DBS Group Holdings and DBS Bank

Members:

John M. Allan, Chief Executive, DHL Logistics

Edward Barnholt, former President, Chairman and CEO, Agilent Technologies

Ferdinand Becalli-Falco, President and CEO, GE International

George Buckley, Chairman, President and CEO, 3M Corporate Headquarters

Dr James Canton, Chairman and CEO, Institute for Global Futures

Timothy Draper, Managing Director, Draper Fisher Jurvetson

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Singapore Is DENKA's Third Largest Production Base

CHEMICAL GIANT'S LATEST INVESTMENTS INCLUDE TWO NEW PLANTS WORTH S\$120M.

Singapore's chemical industry has been seeing strong growth since 2000. Last year, the local industry grew by 10 per cent to exceed S\$74 billion (US\$48.7 billion), and part of this success stems from companies like DENKA, which have set up shop here.

The leading Japanese chemical company, which first arrived on Singapore's shores with an acetylene black factory in 1983, recently increased its substantial presence here with two new plants – one in Tuas and the other on Jurong Island – worth S\$120 million (US\$78.9 million).

With the two new plants boasting some of the world's most high-tech production facilities, Singapore now has the distinction of being DENKA's third largest production base.

COMMITTED STAKEHOLDER

Managed by Denka Advantech Private Limited, a fully owned subsidiary of DENKA, the fused silica filler plant in Tuas will cater to increasing demands for high performance filler. DENKA has the world's largest market share for fused silica fillers, a core component of its electronic materials business; and the expanded production facility for spherical typed filler has an annual capacity of 13,000 tonnes per year.

The plant on Jurong Island will focus on producing a variety of styrene-based resins, which are used to make transparent polymers for optical components such as LCD TVs, shrink films and food packing material sheets. The plant will be managed by Denka Singapore Private Limited, a fully owned subsidiary of DENKA.

"To date, DENKA has invested an estimated S\$300 million (US\$197.3 million) in Singapore, and is home to 170 employees...[it is] playing an instrumental role in the growth of our chemical industry," says Lee Yi Shyan, Minister of State for Trade and Industry.

With the two plants, the company has its sights set on harnessing the global market, especially the fast-growing Asia market, to expand its business. Singapore will function as its strategically positioned supply hub to reach and respond to increasing demands for its products. ^{EDB}



(L-R): Yoshiaki Mikami, Senior Managing Director, DENKA; Seiki Kawabata, President, DENKA; Lee Yi Shyan, Minister of State for Trade & Industry; Toshio Hiruma, Chairman, DENKA; Higashi Ito, Senior Managing Director, DENKA; and Koji Saito, Managing Director, Denka Singapore Pte Ltd and Denka Advantech Pte Ltd

"To date, DENKA has invested an estimated S\$300 million (US\$197.3 million) in Singapore, and is home to 170 employees...[it is] playing an instrumental role in the growth of our chemical industry."

- Lee Yi Shyan, Minister of State for Trade and Industry

Lonza And Bio*One Capital Fuel Singapore's Biomedical Industry With New S\$532m Facility

RECOGNISING BIOLOGICS' GROWING IMPORTANCE IN THE GLOBAL BIOMEDICAL INDUSTRY, LONZA HAS COLLABORATED WITH BIO*ONE CAPITAL TO MEET ITS CUSTOMERS' NEEDS WITH ITS SECOND MAMMALIAN MANUFACTURING FACILITY IN SINGAPORE.

Lonza gave its vote of confidence in Singapore's biomedical industry when it partnered Singapore Economic Development Board's (EDB) Bio*One Capital to build its S\$532.1 million (US\$350 million) large-scale commercial mammalian cell culture manufacturing facility. Located in Tuas Biomedical Park, Lonza Biologics Tuas Pte Ltd represents the company's second mammalian manufacturing plant in Singapore, and the third one globally.

Lonza Biologics will have up to four mammalian bioreactor trains, each with a flexible capacity of between 1,000-20,000 litres, and respective purification units. The first phase of construction for the manufacturing facility was initiated a month before the groundbreaking ceremony on March 2007, and it's expected to be completed and fully operational in 2011; it will have an estimated staff strength of 350 when the project is fully realised.

STRENGTHENING SUPPLY CAPABILITIES

"In line with Lonza's strategy to develop its capabilities and expand the biopharmaceuticals business in the fast-growing Asian market, this facility marks an important milestone as Lonza reinforces its leading position as a global custom manufacturer of biopharmaceuticals," says Dr Stephan Kutzer, Chairman, Lonza Biologics Tuas Pte Ltd. "The facility will operate with cutting-edge technology and a skilled labour force and will be able to manufacture products with a wide array of processes, yields and technologies. This second Lonza facility in Singapore will meet the needs of a variety of customers and will address the growing global biologics demand."

One of the world's leading manufacturers in the pharmaceutical, healthcare and life sciences industries, Lonza's products and services extend from R&D to manufacturing of final products. It also plays a vital role in the development of novel medicines and healthcare and is a leading provider of value-added chemical and biotech ingredients to the nutrition, hygiene, preservation, agrochemical, and personal care markets.

Partnering Lonza in establishing its second manufacturing facility is Bio*One Capital Pte Ltd, a leading biomedical sciences investment management company in Asia with a global presence. It oversees a portfolio of over 60 companies in the US, Europe, Singapore and Asia. The company plays a vital role in bridging and supporting companies' growth strategies in Asia through their operations in Singapore.

"This strategic partnership between Lonza and Bio*One has helped to build the biologics manufacturing capabilities and grow a critical mass of biologics activities in Singapore," says Lim Hng Kiang, Minister for Trade and Industry. "Within a period of less than two years, four commercial scale biologics manufacturing investments have been announced in

Lonza Biologics Tuas Pte. Ltd. Groundbreaking Ceremony

Guest of Honour

Mr Lim Hng Kiang

Minister for Trade & Industry

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(L-R): Philip Yeo, Chairman, A*STAR; HE Daniel Woker, Ambassador of Switzerland; Lim Hng Kiang, Minister for Trade and Industry; Dr Stephan Kutzer, Chairman, Lonza Biologics Tuas Pte Ltd; and Chu Swee Yeok, Chief Executive Officer, Bio*One Capital


Singapore. All these projects are a strong endorsement of Singapore as a choice site to host world class biologics manufacturing activities."

FIRM BUSINESS TIES

Lonza's first biologics manufacturing facility in Tuas Biomedical Park was established earlier in 2006 and the expansion of its manufacturing facilities is an affirmation of Lonza's strong relationship with Bio*One Capital. This second joint venture is a repeat investment that underscores the strength of Lonza's partnership with Singapore.

"We came to Singapore for a number of reasons. As the worldwide leader in biopharmaceutical contract manufacturing, we were determined to build our presence in the Asian

market to support our growing life science customer base," explains Kutzer. "Singapore was selected due to its committed workforce, excellent educational system, competitive cost position and strong IP protection laws. The facilities provide additional needed capacity required to meet our strategic goal for growth and to remain the leader in biopharmaceutical contract manufacturing. It is also a geographically strategic location, which complements Lonza's existing infrastructure."

With such strong synergy shown between both organisations, and boosted by the growing biologics industry, not just in Singapore but globally as well, this partnership looks set to blossom in the days to come. 

"This strategic partnership between Lonza and Bio*One has helped to build the biologics manufacturing capabilities and grow a critical mass of biologics activities in Singapore."

- Lim Hng Kiang, Minister for Trade and Industry

A photograph of a modern, multi-story white building with curved balconies and green-tinted windows. The Infineon logo is visible on the top right corner of the building. In the foreground, there is a large, dark, curved sculpture partially submerged in a body of water. The scene is set in a tropical environment with palm trees and lush greenery.

Infineon

Infineon Technologies Expands R&D Operations In Singapore

THE INVESTMENT, WORTH S\$400 MILLION, WILL HELP THE SEMICONDUCTOR GIANT DRIVE CUSTOMER-ORIENTED R&D FOR GROWING MARKETS IN ENERGY EFFICIENCY, CONNECTIVITY AND SECURITY.

As a leading global semiconductor supplier for communications, automobile, security and industry applications, Infineon Technologies looks set to hold on to its pole position by having the biggest R&D and Integrated Circuit (IC) design teams in Singapore.

The German company recently announced its intentions to expand its R&D operations here to cater to growing demand in energy efficiency, connectivity and security. It will be investing approximately S\$400 million (US\$263.1 million) and increasing the number of R&D engineers in Singapore by another 150. Infineon Technologies currently employs some 400 R&D engineers; of these over 300 are involved in IC design. The increase in staff strength is expected to be a gradual one over the next three years.

With the expansion, the company will continue to leverage Singapore's solid infrastructure, highly skilled workforce and pro-innovation environment to carry out knowledge-intensive end-to-end R&D activities ranging from IC design to system design, wafer fabrication technology development and assembly and packaging.

KEY BASE OF OPERATION

According to Dr Wolfgang Ziebert, CEO, Infineon Technologies, the new R&D expansion reinforces the significant role Singapore plays in its business strategy. "Singapore is an important site for Infineon as the R&D, manufacturing and logistics hub in Asia-Pacific. We have been receiving strong support from the Singapore government since we first started our R&D centre in Singapore in 1991," he says.


Indeed, its Development Centre has grown since it was set up here to provide IC and system development solutions for the communication and automotive industry as well as security systems in the region.

As the hub for the company's R&D operations in Asia-Pacific, the Development Centre in Singapore is responsible for coordinating regional set-up and competence portfolios, enabling services for the region as well as training and mentoring functions for the sites in the region. The Development Centre also drives the value chain of IC and system development which involves the entire range from system engineering to ramp-up support for volume production and dedicated customer support.

GAINING MOMENTUM

More importantly, the expansion will pave the way for the company's continued growth in the region "At present Asia-Pacific accounts for approximately one-third of Infineon's revenue," explains Dr Ziebert. "With the increasing contribution of semiconductors to address the growing demands in energy efficiency, connectivity and security in Asia, Infineon is poised for further growth."

Infineon Technologies is looking to strengthen its development activities in next generation home-networking technologies, customer premises equipment, Internet access devices, mobile phone platforms, digital video broadcasting for mobile-TV, digital power control for power management, microcontroller for automotive and industrial applications, process technologies for wafer fabrication and packaging, and application specific IC design.

"Our strategic direction towards energy efficiency, connectivity and security demands customer-oriented R&D," he adds. "We will continue to strengthen our position as the technology enabler for our customers to take leading positions in their markets." And Singapore is just the place to help the company achieve its vision. 



"Singapore is an important site for Infineon as the R&D, manufacturing and logistics hub in Asia-Pacific. We have been receiving strong support from the Singapore government since we first started our R&D centre in Singapore in 1991."

- Dr Wolfgang Ziebert, CEO, Infineon Technologies

Singapore's Sports Industry: Making Waves Internationally

RECOGNISING THE GROWTH POTENTIAL IN THE SPORTS INDUSTRY, SINGAPORE HAS MUCH TO OFFER FOR SPORTS COMPANIES AND ORGANISATIONS LOOKING FOR A SUITABLE LOCATION TO GROW THEIR COMMERCIAL ACTIVITIES IN THE REGION.

The world of sports is riding the wave of an upward momentum. In its report, *Global Entertainment and Media Outlook: 2005-2009*, PricewaterhouseCoopers (PwC) estimated that the global sports market would grow from S\$125.9 billion (US\$82.8 billion) in 2004, to S\$168.9 billion (US\$111.1 billion) in 2009.

For Asia-Pacific alone, the market was projected to grow from S\$19.3 billion (US\$12.7 billion) in 2004 to S\$25.8 billion (US\$17 billion) in 2009. The recent emergence of Asian athletes such as basketball star Yao Ming and soccer star Park Ji Sung has driven the rise in sports spectatorship, during live events and on television. The Summer Olympic Games, to be held in Beijing next year, would spur this interest to even greater heights.

A snapshot of the annual Standard Chartered Singapore Marathon



Photo courtesy of the Singapore Sports Council

Coupled with rising affluence in the region and the increase in ownership rights for events, television broadcasts fees and merchandise licensing fees, there is tremendous potential in the region's sports industry. For sports organisations and sports-related businesses, Singapore has the necessary infrastructure and environment to play the role of an international hub, and help them ride the wave of growth.

GAME PLAN FOR GROWTH

Together with sports participation and sports excellence, the sports industry is one of three critical pillars for the development of sports in Singapore. In a recent speech by Dr Vivian Balakrishnan, Minister for Community Development, Youth and Sports, he highlighted the main areas that Singapore would be looking at, in order to tap on the increased business opportunities in sports:

Hosting of events and the entire value chain associated with events, such as media and broadcasting, gaming, sports teams and athletes' representation

Events are one of the main drivers of the sports industry, with the potential of capitalising on event intellectual property rights, providing sports media content and attracting supporting services such as broadcast, merchandising, advertising and talent management. With over 8,000 professional services companies based locally, Singapore can be the ideal location for companies or federations to develop, commercialise and manage event rights and associated intellectual property.

Providing value-added services, such as sports education, sports medicine and sports science, and the hosting of professional services such as international sports federations and other governing bodies

Singapore, with its experience and reputation as a Global Schoolhouse, has much value to offer to renowned sports educa-

tion institutions and training academies. Furthermore, with almost 250,000 international patients streaming into the country annually, and the nation's strong reputation as a growing biomedical hub in the region, there is also a strong knowledge and R&D base that can be readily tapped by companies dealing with sports medicine and sports science.

Retailing and merchandising for sports products, marketing and promotions with local athletes, manufacturing of high-end sports equipment, and cutting edge R&D for sports equipment and materials

Similarly, the designing and manufacturing of sports-related products can leverage existing skill sets that Singapore is reputed for, such as in precision engineering, industrial design and prototyping. With the nation's strong intellectual property regime, companies can also have peace of mind in producing revolutionary sporting equipment.

"Essentially, we are trying to create a virtuous cycle whereby building a strong sporting industry would support our sports excellence and high participation thrusts," says Dr Balakrishnan. "As the industry matures and creates more opportunities, this will in turn spur more Singaporeans to be more involved in sports, including taking it up as a viable long-term career."

With the completion of the new S\$800 million (US\$526.3 million) Sports Hub in Kallang scheduled for year 2011, Singapore is well-positioned to be the focal point for development of the sports industry in the region.


Sports companies and organisations can contact the Singapore Economic Development Board (EDB) to find out more about how Singapore can add value to your operations. 



Photo courtesy of Singapore Sailing Federation

The thriving local windsailing scene

"Essentially, we are trying to create a virtuous cycle whereby building a strong sporting industry would support our sports excellence and high participation thrusts."

– Dr Vivian Balakrishnan, Minister for Community Development, Youth and Sports

Eli Lilly's R&D Expansion Plans Spur Biomedical Industry's Growth

The local biomedical industry received a shot in the arm when Eli Lilly and Company (Lilly) decided to expand its R&D capabilities in Singapore. Its drug discovery research facility, formerly the Lilly Centre for Systems Biology (LSB), will now be expanded to build on the company's existing capabilities in biomarker discovery and development, particularly in cancer research.

Renamed Lilly-Singapore Centre for Drug Discovery, it will be the largest corporate pharmaceutical R&D centre when completed, and some S\$228 million (US\$150 million) will go to research spending over five years, representing a successful collaboration with the Singapore Economic Development Board (EDB). It will join a biomedical community that already comprises more than 25 pharmaceutical and biotech companies.


"Our expansion at Lilly's facility is significant in that it confirms the success we have had here in Singapore in our biomarker research and the development of information technology tools that support our biology discovery efforts," says Steven Paul, Executive Vice President, Science and Technology, Lilly.

INTEGRATED RESEARCH

Key to this new investment is the emphasis on application of translational medicine, which means translating basic research into effective therapies for patients. As this requires cooperation among the multiple groups engaged in the drug discovery process, the company came up with a 'Drug Hunting Team' concept to drive collaboration among biology, chemistry, toxicology, drug disposition, biopharmaceutical, and medical experts in an integrated manner.

"The use of our translational medicine expertise is vital to our goals here," says Kerry Blanchard, Executive Director, Discovery Biology Research, Lilly. "The advances we expect to make will improve all phases of drug discovery while decreasing the cost and, ultimately, develop better drugs to improve the lives of patients and their families."

LSB first started operations in November 2002, and showed leadership in the use of cutting edge pharmaceutical research technologies to discover new medicines more productively. It has also discovered multiple biomarkers that have provided critical support for Lilly clinical trials worldwide.

Philip Yeo, Chairman, Agency for Science, Technology and Research (A*STAR), lauds the latest commitment shown by Lilly, saying, "Lilly's decision to carry out such leading edge research here just five short years after LSB was established, is a strong validation of Singapore as a location of choice for state-of-the-art discovery research activities." 

THE PHARMACEUTICAL GIANT'S DECISION TO CONSOLIDATE ITS RESEARCH ACTIVITIES IN SINGAPORE HINGED ON THE NATION'S CONDUCIVE ENVIRONMENT FOR DRUG DISCOVERY.

The Economic Development Board (EDB) is the lead government agency responsible for planning and executing economic strategies to enhance Singapore's position as a global hub for business and investment. We are the one-stop agency that facilitates and supports local and foreign investors in both the manufacturing and services sectors as they seek more value-creating operations, higher sustainable returns and new business opportunities.

Singapore commands global leadership positions in many areas. EDB is expanding and extending existing industry clusters, as well as exploring new growth areas to create good jobs and secure Singapore's future competitiveness. Our emphasis is on capital-intensive, knowledge-intensive and innovation-intensive activities.

For more information on how EDB can help in your business and investment, please visit www.sedb.com.

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