Connect

Sep-Oct 2009

FEATURE

Manufacturers' Sentiments Survey Findings For Q4 2009

CEO TALK

JOHN NG, CEO, POWERSERAYA

OPINIONS

What is Nanotechnology

SMEs Inspire

SMa Connect is published bi-monthly by the Singapore Manufacturers' Federation

Dear Members,

he recent APEC meeting held in Singapore achieved tremendous momentum in setting the tone for trade liberation and cooperation among the members. Increasing SMEs' access to global markets, sustainable growth and climate change were some of the key topics APEC leaders have touched on during the summit.

In our local context, SMES form the backbone of Singapore's economy, with its significant contributions to the economy. Accounting for approximately 42 per cent of our GDP and employing more than half of the local workforce, the development of the SME sector is getting increased attention and awareness.

This issue, we pull our focus back to the basics of SME growth – entrepreneurship, the source of courage and growing opportunities. In our FOCUS segment, we talk to three inspiring local SMEs manufacturers who share with us their success stories, and how they have elevated from the days of entrepreneurship.

For Opinions, we have also invited NanoConsulting to provide us insights on the topic of Nanotechnology and how its importance is growing in a variety of manufactured products.

We are also pleased to introduce a new editorial segment, CEO Talk, to promote thought leadership as part of our Manufacturing Excellence Initiative (MEI). With this segment, SMa hopes to provide a channel for SMa members to learn more about the business leaders, their philosophies and values in life. This week's segment features Mr John Ng, Chief Executive Officer of PowerSeraya Ltd, who shared on his company's efforts to go green. (Page 22 & 23)

SMa would like to invite you to participate in our newsletter. If you have company updates, insights to share or aspiring C-level executives who would like to be featured, please write to us at **connect@smafederation.org.sg**.

Yours sincerely, Evelyn Tan (Ms) Chief Editor





COVER by Mediactive

Editorial Advisors

Annabelle Tan Bennett Neo Gim Siong Gwee Seng Kwong

Chief Editor

Evelyn Tan

Staff Writers

Gillian Lim Evelyn Tan

Contributors

Health Promotion Board NanoConsulting Pte Ltd Powerseraya Ltd

Publisher

Singapore Manufacturers' Federation 2 Bukit Merah Central #03-00 SPRING Singapore Building Singapore 159835 Tel: +65 6826 3000 Fax: +65 6826 3008 Email: hq@smafederation.org.sg Website: www.smafederation.org.sg

SMa Connect is a bi-monthly newsletter by the Singapore Manufacturers' Federation.

Singapore Manufacturers' Federation (SMa) takes every reasonable care to ensure that the information in this publication is accurate. SMa does not accept any responsibility for any errors or omissions. The opinions expressed in this publication rests solely with their contributors/writers and do not constitute an endorsement by SMa.

No portion of this publication may be reproduced without the permission of the publisher.

Distributed to more than 5,000 organisations.

Advertising Sales

Florence Long Mediactive Pte Ltd Hp: (65) 9382 0381 E: florence@mediactive.com.sg

Publishing Consultant

Lyon Low

Design

Eunice Gracilia Nurzuli Sobahri

mediactive

Mediactive Pte Ltd

T: 6846 4168 F: 6846 4768

www.mediactive.com.sg

Inside

Features

News in Brief 06 Manufacturers' Sentiments Survey for Q4 2009 12 Treasure Your Mind 26 Focus **SMEs Inspire** 14 **CEO Talk** The Green Generation 22 **Opinions** What is Nanotechnology? 18 Regulars **Events** 10 Ask EDC@SMa 16 **Snapshots** 24 Updates 28







SMa EXCO & Council / Secretariat

Executive Committee

President

Renny Yeo Singapore Cables Manufacturers Pte Ltd

Deputy President

Dr Moh Chong Tau Makino Asia Pte Ltd

Honorary Secretary

John Kong Wai Meng BlueScope Steel Asia Pte Ltd

Honorary Treasurer

Simon Li Feoso Oil (Singapore) Ltd

Vice-President

Dr Ahmad Magad II-VI Singapore Pte Ltd

Vice-President

George Huang Chang Yi Amoy Canning Corporation (S) Ltd

Vice-President

Hans-Dieter Bott

Vice-President

Poh Choon Ann

Poh Tiong Choon Logistics Ltd

Honorary President

Edwin Khew

IUT Global Pte Ltd

Lim Meng Wee SP Consulting (International) Pte Ltd

Annabelle Tan

Brite Koncept Pte Ltd

Council Members

Alan Lee

South East Metal Industries Pte Ltd

Albert Lim

Packagers Pte Ltd

Bennett Neo Gim Siong Asia Pacific Breweries (S) Pte Ltd

Birch Sio

Concord Associates

George Wong

Hoclink Systems & Services Pte Ltd

Goh Seow Ping

Johnson & Johnson Pte Ltd

James See

Singco Pte Ltd

Jennifer Yeo Yeo-Leong & Peh LLC

Ierry Tan

Wanin Industries Pte Ltd

Liang Chong Kang

E.mation Technologies Pte Ltd

Patrick Chang Paclin Office Products Pte Ltd

JP Asia Capital Partners

Por Khay Ti

HTL International Holdings Ltd

Rowan Tan

DORMA Far East Pte Ltd

Stephen Lee

Jesplan Consultants

Sunny Koh

Chinatown Food Corporation Pte Ltd

Suresh Narayanan

Nestle Singapore (Pte) Ltd

Tan Boon Chong

Clipsal International Pte Ltd

Dr Tan Kok Kheng

MycoBiotech Ltd

Tay Choon Mong Tay Choon Mong Agency

Tsang Kwan Lung

GP Batteries International Ltd

Wong Choon Kin

Spot Management Services Pte Ltd

Yeo Cheong Guan

Eng Bee Paper Merchant Pte Ltd

SMa Secretariat

Gwee Seng Kwong MBA Secretary-General

Evelyn Tan

Director

Membership, Research &

Corporate Communications

Janice Kwok BBA

Director

Industry Groups & Executive Secretary

Anna Chew

Director

Finance & IT

Jeffrey Liew BSc

Director

International Trade Development

Sylvia Teo

Director

HR & Admin

Tan Jin Soon BA Executive Director GS1 Singapore Council

Richard Soh MA (Marketing Mgt), Dip (Marketing),

Dip (Sales & Marketing), Dip (Ind Mgt)
CEO, School of Management

Doris Chow MBA (Tech Mgt), Grad Dip (Entrepreneurship & Innovation)

Director / Managing Consultant EDC@SMa Pte Ltd /

Centre for Corporate Learning

Lauw Kok Keen BA (Hons)

Acting Director

Singapore e-SCM Council

Tremendous Potential for Indian Packaging Industry

ndia is a booming market for packaging and beverage industry. Consumption is being boosted by the increasing demand for food, beverages and everyday consumer goods. While global average per capital consumption of packaging is US\$100, in India, it is only US\$15. The market volume of the packaging industry has been growing by an average of 15 per cent per year and this figure is expected to rise to 22 to 25 per cent annually in the next few years.

India is the third country with the largest beverage consumption, after USA and China, accounting for about 10 per cent of the global beverage consumption today. Market analysis indicates that beverage sales in India will increase by more than 60 per cent between 2008 and 2012.

In view of the tremendous growth potential for both packaging and beverage industries, two trade fairs – drink technology India and International PackTech India will collaborate to create a common Indian trading platform for customers from the packaging, beverage and liquid food industries. The joint trade fair will be held in the Bombay Exhibition Centre, Mumbai, from 18 to 20 November 2010.

Singapore and US Academia to Develop Green Electronics

C Santa Barbara (UCSB) and the Institute of Microelectronics (IME) of Singapore will collaborate to research on "Green Electronics". The collaboration will focus on developing ultra-efficient nanoscale transistors and exploring their circuit-level functionality. Areas of focus include design, modeling, fabrication, and characterization of an emerging category of "green" nanoscale devices with ultra-low leakage.

Energy efficiency by lowering leakage power consumption is critical to all future electronic products, especially portable electronic devices. This collaboration will create novel electronic devices with a near-ideal switching behavior that allows the switch to move from ON to OFF state and vice-versa almost instantly. New materials, transistor structures, fabrication techniques, circuits, and architectures will also be considered.

For more information, please contact Ms Tan Su-Lynn (Institute of Microelectronics) at tansl@ime.a-star.edu.sg.

SMEs Confident of Surviving the Current Downturn

wo recent polls done on SMEs' take on the current market conditions and their business outlook unanimously registered positive feedback. In the recent release of survey findings from DP Information Group, 78% of the 10,000 respondents said they are confident of weathering through the downturn. More than half of the SMEs (with most sentiments from Infocomm, Manufacturing, Services and Wholesale), look forward to expanding in current downturn by introducing new products and services (35.7%) and increasing overseas market presence (29.7%).

In a smaller-scale survey of 152 SMEs done by branding consultancy A.S. Louken (ASL) and ASME, it was revealed that 4 out of 5 respondents anticipate growth in the next 12 months. Findings also showed that out of the 34.9% of all SMEs surveyed that have yet to establish overseas presence, 2 out of 5 companies intend to venture overseas in the next 12 months.

21.7% of SMEs believed that their strengths were in their "unique products and services", 20.4% their "expertise" and 16.4% their "quality product and services". More than 70% of the respondents who said branding is important, plan to invest in branding in the near future.

Luke Lim, CEO of ASL, said: "While some SMEs have also found their competitive advantage in serving niche markets, offering diversity in business products and services, having good relationships or even in owning their own facilities, it is of concern that a significant 13.8% were unsure of their competitive advantage. Knowing and focusing on strengths ensures sustainability and even helps to gain market share. This is even more crucial during poor economy."

SEC Launches One-stop Climate Portal

ingapore Environment Council (SEC) recently launched a climate portal to provide detailed information on global and local climate change-related issues. The SEC Climate Portal

consolidates all its climate change-related projects as well as climate change related services (Carbon Calculator, Options for offsetting carbon emissions) at this one-stop Climate Portal.



The SEC Climate Portal can be accessed at www.climatechange.sg.

SMa and FMM seek cross-border investment opportunities for manufacturers

August 2009 - SMa partnered with Federation of Malaysian Manufacturers (FMM) to identify key areas of collaboration at a joint council meeting held at Puteri Pacific Hotel, Johor Baru. Leveraging on the strong bilateral trade and investment relations between Singapore and Malaysia, SMa and FMM will be rolling out a series of strategic activities to explore cross-border opportunities.

Delegates from key government partners from Singapore's Ministry of Trade and Industry, SPRING Singapore,

IE Singapore and Malaysian Industrial Development Authority (MIDA) also participated in the joint council meeting.

In conjunction with the joint council meeting, SMa and FMM also led a group of about 100 member representatives



Group picture with Council Members of Singapore Manufacturers' Federation and Federation of Malaysian Manufacturers, as well as Tuan Haji Mohamed Basir bin Mohamed Sali (seated, second from left), Senior Manager, Johor State Investment Centre, and YB Dato'

to participate in a seminar co-organised with Minister for International Trade and Industry and MIDA, including a dialogue session with the Johor State Investment Centre and Royal Malaysia Police (Johor branch) and a visit to Iskander and Nusaja regions. – CONNECT

Universal Design Offers New Business Opportunities Mr Wei Kong, Design & Research Manager in Singapore's National Design Centre.

August 2009 - At the talk jointly organized by SMa and >60 Design Centre Good Design and Good Business, speaker Mr Wei Kong, Design & Research Manager in Singapore's National Design Centre for Ageing, urged members to engage the silver market and apply universal design in their design and development processes. He explained that Universal Design refers to the manufacturing of products, services and environment to match the needs and wants of a wider target market – elderly, disabled, pregnant women, mothers and children.

Singapore has one of the world's fastest ageing populations, projected to be the fourth oldest country in the world by 2050. Based on projections by US Census Bureau, 57.4% of Singapore's population will be aged 50 and above by 2050.



Leveraging on the quick developments in the silver market, product developers and manufacturers are encouraged to incorporate Universal Design into their business strategies to tap on the lucrative opportunities. The ageing population to come, will be the group of active and affluent consumers today. With higher purchasing power, they are more prepared to embrace product designs that include their needs.

Apart from medical and health care equipment, manufacturers can also consider focusing on consumer goods which satisfy specific needs of the elderly. Examples include household appliances with clear indicators, health food and electronic devices with a clear display screen. – CONNECT

Local Food Manufacturers and Exporters Eye Growing ASEAN and Halal market

Food Exports Conference 2009
Food Exports to ASEAN
Market Trends and Regulatory Requirements

1 September 2009

1 September 2009

Moderator, Mr Tan Khieng Sin (third from left); Presenter, Mr Lam Kong Hong (fourth from left), Director of Quality Assurance Services Division, SPRING Singapore, with the panel of speakers for the morning session.

September 2009 - Over 250 food industry professionals and companies converged at the Food Exports Conference 2009; updating themselves with the latest developments in the Southeast Asian market, specifically on food and import regulations and upcoming trends such as Halal developments and nutrition labeling.

Jointly organised by SMa and SPRING Singapore, this year's conference featured speakers who are regulatory board representatives from Indonesia, Malaysia, Thailand and Vietnam. They shared with local food manufacturers and exporters on the respective market needs and regulations; an integral piece of information for companies keen on

expanding their outreach into the ASEAN region.

Of the wide-ranging topics discussed, the Halal developments in the ASEAN region drew much interest from the participants. With Muslims accounting for half of ASEAN population, the Halal market is an important aspect of the ASEAN food export market. Global trade in Halal agri-food products is estimated to be US\$ 560 million annually. Food manufacturing companies have also reported 15-20% growth in their business by leveraging on Halal certifications.

For more information on standards and technical regulations for food, please contact ETAC at etac@spring. gov.sg.- CONNECT ■

CCL partners ifs to launch Masterclass seminars

September 2009 – Centre for Corporate Learning (CCL), training arm under SMa, and premier UK financial education organisation, *ifs* School of Finance, jointly launched a Masterclass in *Banking Innovation* and *Business Opportunities* in Indochina to cater to the growing interest in the emerging Indochinese market.

The inaugural seminar was a timely opportunity to share with C-level executives on the recent developments in the region. Two renowned speakers, Dr Keith Pond of Loughborough University, and Dr John Vong, Emerging Markets Specialist, spoke on the development of consumer



Dr Keith Pond of Loughborough University and Dr John Vong, Emerging Markets Specialist.

finance, quality of consumer and corporate credit, as well as the economic appeal of the emerging Indochinese market respectively.

As a forerunner of corporate training and development, CCL recognises the importance of equipping companies with the latest trade financing knowledge to facilitate their business expansion plans into these emerging markets. As such, CCL plans to implement more of such Institute of Banking and Finance-accredited training programmes for working professionals to further update their knowledge in trade financing in the near future. – CONNECT

A Mid-Autumn Affair by the Labrador Park

Over 100 members turned up at the Mid-Autumn Networking Night by Labrador Park.



Mr Renny Yeo, SMa President (right) with event sponsor, Mr Ed Ng (left), CEO of GE Capital Asia.

Amazing performance from Sichuan Face-Changing talent.

September 2009 - SMa celebrated the Mid-Autumn Festival with some 100-over members at the picturesque Labrador Park, offering a panoramic view of the sea.

Notwithstanding the sumptuous seafood dinner buffet spread, topped with delectably sweet mooncakes and refreshing Tiger beer, members were also treated to an indigenous performance by the Sichuan Face-Changing talent.

In addition, SMa warmly welcomed new members to the big family; encouraging all members to leverage on SMa's resources and extensive network of contacts to actively seek out business opportunities

for expansion plans and sharpen their competitive edge.

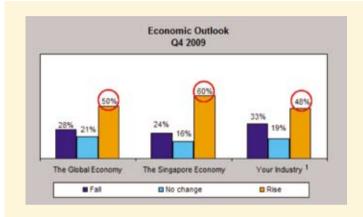
All members had an enjoyable evening. The event is kindly sponsored by GE Capital, supported by Asia Pacific Breweries for their award-winning Tiger beer and The Pines for their delicious mooncakes. – CONNECT

Manufacturers' Sentiments Survey Findings for Q4 2009

SMa constantly seeks to gather manufacturers' sentiments pertaining to key areas of focus that will impact the overall performance of their companies in the forthcoming quarter. Extracts of the findings are as follows. Please visit our website at www.smafederation.org.sg for the detailed report.

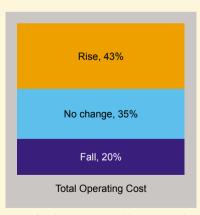
KEY FINDINGS

- 1. The overall sentiments for Q4 improved further with about half of the companies surveyed expected a more positive outlook.
- 2. Most companies shared that they expect cost to increase in Q4, probably due to a more positive economic outlook
- and increased demand.
- 3. A net balance of 16% indicated an increase in overall wages in Q4. This could likely be due to a probable bonus payout at year-end.

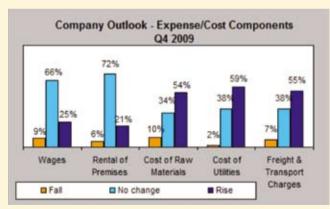


Note: The Global Economy, The Singapore Economy and Your Industry refers to the general macro economy, not manufacturing only.

1: Your Industry refers to the industry the respondent/company belongs to, i.e. Food & Beverage, Automation Technology, etc.







Note: The above may not add up to 100% because of missing responses.

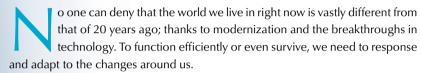
The above chart shows the sentiments on Total Operating Cost and its cost components for Q4.

This survey is compiled and reported by Serene On, Research Analyst for SMa. Survey was conducted in Sep 2009 via email, telephone and face-to-face interviews. A sample total of 100 companies across various industry clusters were interviewed. – CONNECT

SITES INSPITE CONNECT talks to three inspiring SME manufacturers who reveal their roadmap to success.

It is not the strongest of the species that survive, nor the most intelligent, but the ones most responsive to change.

- Charles Darwin



The same applies for businesses. If businesses want to stay away the 'endangered species' list, they need to be responsive to the changes around them, or even use them to their advantages. This is especially true for SMEs. They need to constantly evaluate the way they do business, redesign work processes and provide products and services with higher customer value to stay competitive.

Budding, not Booming

One important contributor to SME competitiveness is the adoption of a regional mindset that is tuned to the developments of global trends. The winning strategy, however, is to focus on 'budding' rather than booming markets. Though booming markets very often present global opportunities on a large scale; it also sees quick dominance of market share by the bigger boys. On the other hand, 'budding' markets present attractive opportunities in terms of market share, growth rate and brand loyalty.

Homegrown company, Beacons Pharmaceuticals is the Singapore's first pharmaceuticals manufacturer to make foray into Uzbekistan, Central Asia. The 40-year-old manufacturer is one of the largest local manufacturing facilities with higher production capacity. Even so, the company recognises overseas expansion as one of its growth drivers and domestic market as a channel for recurring revenues.

When asked about the decision to make inroads into Uzbekistan, Central Asia, Joseph Lam, Managing Director said 'there is a real and increasing demand for cost-effective pharmaceuticals' in Central Asia, and that 'Central Asia and Uzbekistan are like China 20 years ago', brimming with untapped potential and lucrative opportunities. Despite different spoken languages, he said Uzbekistan has the extra 'people element' and felt that it is not difficult to understand the people, as they were on the same business wavelength.

Currently, 80-90% of the drugs in the Uzbek market are manufactured by foreign companies. While pumping up the drug manufacturing industry, the Uzbek government is also aggressively reaching out to overseas drug manufacturers to collaborate and provide quality and high value manufacturing in the country. Besides serving a sizeable market of 27 million Uzbek population, Beacons is also targeting



the Commonwealth of Independent States market with a total population of more than 100 millions.

Facilitate Growing Trends

Another strategy is to play a facilitator to growing trends. With the rise of the 'green' economy, companies are offering manufacturers solutions to help them to strike a balance between saving the environment and initial capital outlay under sustainable manufacturing practices.

Local packaging solutions provider, Greenpac is a fine example of a company whose business model and value proposition help spur manufacturers towards the goal of achieving sustainability. The company has since grown into a thriving multimillion dollar company; and as the market leader for environmentally friendly packaging solutions in Asia.

Back in the start-up days, Susan Chong, Managing Director, noted the disparity between packaging products services offered in the market versus the today's clients' needs for eco-friendly and innovative designs. Manufacturers and distributors faced age-old problems of conventional wooden pallets that damage their goods due to the protruding nails. Greenpac offered its first internationallypatented, nail-free interlocking wooden packaging design that won over customers who once thought "Green is Expensive" and had little concern about sustainable and innovative packaging needs. Through constant education and results-driven demonstrations, she is now serving some Fortune 500 companies with the value proposition to offer innovative and environmentally friendly packaging solutions that eliminate waste and unnecessary costs.

Recognised by the international business community for Greenpac's commitment to strive for innovative, ecofriendly and innovative solutions, Susan has received numerous awards and accolades such as the recently launched Manufacturing Sustainable Label. Singapore Packaging Star Awards under Outstanding Entrepreneurship under the Asia category Entrepreneurship Award, Senoko Power Green Innovation Award.

Innovate to Thrive

Innovation not only creates a competitive advantage but opens up new markets.

When local inventor, Peter Soh saw that world crude oil prices, electricity tariffs and energy consumption surging at an alarming rate, he was inspired to create an energy-conserving product for air-conditioning systems.

He then invented the Hydroball system, an auto-cleaning technology that saves on electricity bills by cutting down energy wastage and improving chillers' efficiency. It also saves the environment by reducing the amount of toxic chemicals released into the air and usage of chemicals for the cooling tower. As such, the company also reached out to another target group - customers that were concerned with the detrimental effects on the environment. effectiveness was demonstrated at a project piloted by Jurong Town Corporation - over six months, the system reduced energy consumption by more than 18%.

However, there are challenges to face. Peter met difficulties in financing, manufacturing of equipment parts and more importantly, marketing. The need for competitive positioning was the priority. With that, it encouraged customers to recall on the system when there is a need to replace or use an automatic cleaning system. More industrial awareness was eventually garnered and the company also hired more sales professionals to market and sell the product.

Peter's company is seeing growing demand for his systems and project references have also increased as more systems were installed for projects under the public sector, commercial buildings, water fabrication plants and others. When asked for the attributing success factors, he quoted sustaining customers' satisfaction, constant improvement of products, reducing manufacturing costs yet maintaining the highest quality and more importantly, the positioning and marketing strategy for its systems.

Fortune Favours the Bold

The global economic downturn is likened to a pandemic as a test on immunity and hit businesses which had poor models and/or strategies. However, lessons can also be learnt from the current circumstances, and SMEs can rise to own their fair share of the local or overseas market.

SMEs contribute half of Singapore's total value-add, but most of them are struggling in the vicious cycle of hurdles and challenges. Government assistance schemes may have helped some to close the gap between their capabilities and their performance. Nonetheless, to see sustainable, long-term growth, local SME manufacturers need to be as bold and responsive and more importantly, adopt an entrepreneurial mindset and constantly seek new capabilities, form new strategies and develop new markets.

- CONNECT

Local SMEs should focus on how to value add to the entire supply chain processes through technology and innovation development.

– Susan Chong

Asked Cosma

Our EDC@SMa team provides tips and advice to frequently asked queries on various government schemes and funding.



uestion: What is Exporter Development Programme (EDP)? nswer: The EDP programme is an initiative by International Enterprise (IE) Singapore, designed to help Singapore-based SMEs develop their export competencies through a sustained and systematic approach to penetrate overseas market.

The programme encompasses three compulsory components which will equip and provide SMEs with the adequate knowledge, approach as well as opportunities to develop and apply its own export strategies. The three components are export strategy planning, export training course and workshops, and overseas market visit. The three components will help you to:

- Understand your export product or service
- Understand the needs of your customers and target market
- Learn how to gather market information from remote and in-market resources
- Develop an export strategy for your product or service
- Acquire the fundamental knowledge of export
- Meet and network with business associates and potential clients in your export markets

uestion: Who is eligible for the Exporter Development Programme (EDP)? nswer: The programme provides Singapore-based SMEs who wish to

- Enhance your export capabilities
- Kick-start export business
- Gain more knowledge and skills on the preparation required for exporting
- Develop a export strategy for a new target market
- · Review and revise your export strategy for an existing export market

uestion: How will IE Singapore support the programme? nswer: The programme provides eligible companies with grants and support of up to 70% of the total investment required.

Interested companies may contact IE Singapore at 1800-4377673 or iesingapore_edp@ iesingapore.gov.sg. Companies are required to take the Export Readiness Assessment to determine their export competencies.

What is Nanotechnology?

he word "nano" originates from Greek and means "dwarf" and nanometer is one billionth (10-9) of a meter – about one hundred thousandth of the width of a human hair. Nanotechnology or "engineering at a very small scale" is the technology of creating and applying materials and structures with at least one critical dimension below 100nm which lead to new functionalities and properties.

For example, nano coatings can help create stain-proof clothing, easy-to-clean windows and anti-bacterial and scratch resistant surfaces. Nanotechnology can also help create devices that are smaller and cheaper with greater functionality and high energy efficiency.

Due its enormous impact in multiple application areas from medical devices to electronics and even environment, governments around the world have thus far (till 2008) invested nearly \$\$56 billion (US\$40 billion) in nanotechnology research. It is expected that government funding in nanotechnology around the world for 2009 alone will reach \$\$9.3 billion (US\$9.3 billion). Increasingly this funding is moving away from fundamental research to more application-oriented research.

Specific examples of application of nanotechnology in different vertical industries are given below:

Automation technology: The growth of low cost, high reliability, wireless sensors to measure parameters was once thought to be impossible previously. It has also enabled the creation of even smaller electronic devices with everincreasing functionality and high density storage devices. It has also enabled the development of flexible displays.

Building and construction: The development of a variety of new materials developed from nanotechnology is reshaping the building and construction industry. For example, materials such as nanosilica can increase the durability of cement and enhance its mechanical properties. Adding photocatalytic TiO2 to conventional cement can help reduce CO and NOx emissions on highways. Nanotechnology also enables the creation of more environmentallyfriendly high-strength cement substitutes and to incorporate novel wireless sensing elements to monitor the structural integrity of concrete structures.

Electronics industry: Nanotechnology has a growing importance in the development of data storage batteries with better performance. In 2006, Hard-Disk Drives (HDDs) enabled giant magnetoresistance (GMR) accounted for \$25 billion in 2006 with 450 million units shipped, while 60% of Li-Ion batteries used are already using nanofibers. It is also changing the face of the optoelectronics industry with tighter integration of the optical and electronic components in devices that are becoming smaller and smaller. Organic electronics strongly enabled by nanotechnology is also set to drastically reduce the cost of electronic devices.

Food and beverages: Nanotechnology is found in the production of food and beverage with lower cost and higher safety levels. For example, bottles made with nanocomposites minimize the leakage of CO2 and are much cheaper than glass bottles or aluminum cans. Plastic food storage bins are being embedded with silver nanoparticles to impart anti-bacterial properties and keep the food fresh for longer periods of time. Nanosensors are also being used in plastic packaging to

detect food spoilage and to amount of pesticides on fruit and vegetables.

Fire protection: Personal safety and fire protection industry is changing drastically through the use of fire retardant clothing, flame resistant material made with polymer nanocomposites filled with clay and carbon nanotubes and fire retardants made using nanoadditives to replace halogen retardants banned in different markets. Nanoadditives are also used to reduce the heat release rate during a fire event by forming surface char to insulate the underlying material.

Pharmaceuticals: The pharmaceutical industry is one of the early adopters of nanotechnology as it helps develop drugs with greater specificity, more controlled release profile and reduced side effects. Nanoparticles like quantum dots and magnetic nanoparticles also enable the development of better drugs by enhancing the bio imaging capability.

Lifestyle products: The cosmetics industry is the largest application industry for nanotechnology in terms of revenues. Examples of cosmetics incorporating nanotechnology include anti-wrinkle incorporating nanocapsules, ZnO2 nanoparticle based skin care products, TiO2 nanoparticle based sunscreen lotions and moisturizers with oxide and nanosilica. Nanotechnology is also changing the textile industry with clothing that can change color, self-clean and repel water. Nanosocks with embedded nanosilver particles lead to fresh smelling socks for longer durations. Other examples of nanoenabled lifestyle products are low weight high performance sporting goods such as mountain bicycles, golf clubs, kayaks etc made using nanocomposite materials embedded with carbon nanotubes.



Source: SingNano

Metal manufacturing: Nanoparticles are being used as additives in lubricants and coatings due to their ability enter contact area easily and work at ambient temperature. By selectively embedding nanoparticles inside different metals, we now have the ability to produce new metal materials with better mechanical (strength, elongation etc) and functional (corrosion resistance, electrical and magnetic) characteristics.

Medical devices: Nanotechnology can be used in tissue engineering for biomaterials scaffolding, cellular engineering and biomolecular manipulation. Engineering of scaffolds in nanoscale can bring novel properties, enhance biocompatibility and reduce the need for revision surgery. Stents with reduced incidence of stenosis and better drug release profile can be developed using nanocoatings. Nanotechnology also enables the development low cost, point-of-care diagnostic solutions.

Oil & gas industry: The development of highly effective catalysts can operate at lower temperatures and produce fewer by-products, hence creating highly selective membranes to reduce the cost of separation. In addition, nanotechnology is being explored to

reduce the oil exploration costs and costs of offshore rigs.

Plastics and packaging: Nanotechnology can enable reduce the biggest problem faced by the plastics and packaging industry by effectively conversing waste plastic into a carbon source for SiC nanomaterals. It is also possible to turn CO2 to biodegradable plastics using nanotechnology. Nano CaCo3 can be used as fillers in plastic bags as fillers to reduce amount of polyethylene used and reduce wastage.

Nanotechnology in Singapore

Nanotechnology is recognized as a key enabler to sustain future development of the Singapore economy. The Singapore government spent about \$\$420 million (US\$300 million) between 2003 and 2007 in nanotechnology-related R&D and manpower development. In addition, Singapore has a wide variety of programs to train manpower required for nanotech companies at different levels of expertise.

Singapore's investment into nanotechnology has already resulted in the contribution of nanotechnology-related products and services growing at about 8% to 21%. Multi-national companies such as BASF, Bayer, ST Microelectronics and Zyvex have decided to set up

substantial R&D facilities in Singapore to take advantage and contribute to the growing nanotechnology ecosystem in Singapore. Local companies have also started to incorporate nanomaterials in their products. For example, Pasture Group has effectively used nanoparticles in their disposable masks. These masks have been approved by FDA for general use to prevent against the recent swine flue outbreak. Another local company, Haruna Paints makes easy-to-clean paints containing nanoparticles. There are also a growing number of new nanotechnology companies such as Amaranth Medical, NanoBright, Metarix that came out of local universities.

nanotechnology summary, can deliver solutions to a number of existing problems in different industries and Singapore has the world-class research and infrastructure to deliver these solutions. However, significant challenges to large scale adoption nanotechnology exist. include the conservative nature of the manufacturing industry, the difficulty in scaling up nanomaterial production, as well as integrating nano-based solutions into existing solutions and incomplete knowledge of their health and safety impact. In spite of these challenges, as companies like Pasture Group have shown, nanotechnology can provide a decisive competitive edge to the early adopters. - CONNECT

This article is contributed by:
Dr Hiran Vedam
hiranvedam@nanoconsulting.com.sg
CEO of NanoConsulting Pte Ltd.



Skills Programme for Upgrading and Resilience

(SPUR) is a programme which brings together the full range of skills upgrading programmes delivered by the SPUR training providers with funding support that companies and workers can tap on during the current economic downturn.

SPUR offers employers **lower course fees** and **higher Absentee Payroll Subsidies** (capped at \$10/hr) when they send their staff for training.

+Up to 90% WDA Funding#

NEW!

Advanced Certificate in Manufacturing Sales & Marketing

SMa Member & Non SMa Member: \$885.96

Supervise Teams at Work

Supervise Work Improvement Processes

Supervise Quality Procedures

Supervise Workplace Safety & Health Practices

Develop Purchasing Skills & Selection of Vendors in Manufacturing Setting

Maximize Advertising & Promotion in Manufacturing

Implement Profitable Marketing & Sales

Strategies in Manufacturing

Practise Entrepreneurship within Your Organisation

Implement Sales & Customer Service in Manufacturing Business

For enquiries, please contact Sharon Liang at 6826 3049; sharonliang@smafederation.org.sg

NEW!

Specialist Diploma in Manufacturing Sales & Marketing

SMa Member & Non SMa Member: \$818.55

Manage Effective Manufacturing Sales & Planning

Interpret Business Laws for Non-Legal Executives in a Manufacturing Environment

Manage Marketing Intelligence in Manufacturing Setting

Develop and Implement Strategic Management for Above Average Returns in Manufacturing

Analyse Global Marketing

Manage Manufacturing Export & Import Sale

For enquiries, please contact Nina Sianturi at 6826 3071; nina@smafederation.org.sg

- * All fees are inclusive of GST & after subsidy. Kindly contact us for the latest updates on new programmes and dates.
- ** The programme information above is accurate at the time of printing. SMa-CCL reserves the right to alter any of the information provided above at any time without prior notice.
- # Subsidies are only available for Singaporeans and PRs

SMa - Centre for Corporate Learning Upcoming Programmes

NOVEMBER 2009							
2 Nov 09	Selling It Right!		20 Nov 09	Adapting to Change at Work			
2 - 3 Nov 09	Warehouse and Storage Management		24 - 25 Nov 09	Statistical Process Control and Process Capability for Manufacturing			
5 - 6 Nov 09	Strategic Inventory Management, Planning and Control		25 - 26 Nov 09	Value Stream Mapping			
6 Nov 09	People Skills for Managing Effective Customer Service		29 Nov 09	Cost Reduction Techniques for Effective Purchasing			
9 Nov 09	Effective Uses and Applications of INCOTERMS in International Trade		30 Nov - 1 Dec 09	Workshop On Understanding Letter of Credit Best Practices and International Trade			
11 Nov 09	Stress and Wellness Management						
12 - 13 Nov 09	Six Sigma Methodology and Tools training		DECEMBER 2009				
13 Nov 09	Negotiation Skills Best Practice		1 - 2 Dec 09	7 QC Tools and QCC			
16 - 17 Nov 09	Supervisory Management Skills		9 Dec 09	Understanding Key Performance Indicators (KPI)			
17 Nov 09	Six Sigma for Managers, Executives and Champions		14 - 15 Dec 09	How To Negotiate with Vendors and Suppliers			
17 - 18 Nov 09	Practical Manufacturing Productivity and Cost Improvement		17 - 18 Dec 09	Six Sigma			

SMa members are eligible to utilise SMa Complimentary Cash Voucher for the courses and seminars.

SMa Centre for Corporate Learning					
General Email:	cclemail@smafeder	cclemail@smafederation.org.sg			
General Fax:	6826 3021				
Seminars:	Ms Leong Mun Yin	DID: 6826 3056	munyin@smafederation.org.sg		
	Ms Nina Sianturi	DID: 6826 3071	nina@smafederation.org.sg		
	Mr Rayson Lee	DID: 6826 3086	raysonlee@smafederation.org.sg		
In-House Training:	Please email your queries to cclemail@smafederation.org.sg				



SMa Centre for Corporate Learning

SPUR Training Programme:

- WSQ Certificate in Generic Manufacturing Skills
- WSQ Certificate in Generic Manufacturing Skills (Logistics)
- **WSQ Certified Operations Specialist**
- WSQ Certified Operations Professional
- WSQ Advanced Certificate in Manufacturing Sales & Marketing NEW!
- Supervise Teams at Work
- Supervise Work Improvement Processes
- Supervise Quality Procedures
- Supervise Workplace Safety & Health Practices
- Develop Purchasing Skills & Selection of Vendors in Manufacturing Setting
- •Maximize Advertising & Promotion in Manufacturing
- •Implement Profitable Marketing & Sales Strategies in Manufacturing

Up to 90%

Funding

Available

 Practise Entrepreneurship within Your Organisation •Implement Sales & Customer Service in Manufacturing

- WSQ Specialist Diploma in Manufacturing Sales & Marketing NEW!

- *Manage Effective Manufacturing Sales & Planning
- •Interpret Business Laws for Non-Legal Executives in a Manufacturing Environment
- •Manage Marketing Intelligence in Manufacturing Setting
- *Develop and Implement Strategic Management for Above Average Returns in Manufacturing
- Analyze Global Marketing
- •Manage Manufacturing Export & Import Sale

Singapore Manufacturers' Federation (SMa) is an accredited Continuing Education and Training (CET) Centre with Singapore Workforce Development Agency (WDA)



Contact us:

(65)6826 3000

(65) 6826 3021

⋈ ccl@smafederation.org.sg

www.smafederation.org.sg







The Green



Mr John Ng Chief Executive Officer,

PowerSeraya has clinched two awards - Best Sustainability Report and Best First-Time Report - at the prestigious 7th Association of Chartered Certified Accountants (ACCA) Singapore Awards for Sustainability Reporting 2008, endorsed by National Environment Agency. Its inaugural Sustainability Report also scored the highest Global Reporting Initiative level ever achieved by a Singapore company to-date. CONNECT speaks to its Chief Executive Officer, Mr John Ng, on his leadership philosophies and values.

1) As the CEO of an established company in Singapore which plays a key role in the energy sector, what are some of the leadership values that you strongly believe in?

It is always important to work and function as a team in any corporation. Good team collaboration in a dynamic workforce is vital to the success of a company. Open communication within the company can lead to generation of innovative ideas which can be good for the growth of the organisation.

2) PowerSeraya has been an advocate of sustainable generation and consumption of resources. Going forward, how would you continue to inspire your staff and align their interests with the company's?

PowerSeraya has always been an all-rounder supporter of green initiatives. Internally, we seek to engage our staff in various ways ranging from organised talks and dialogue sessions, to giving them the opportunities to lend their volunteering efforts towards environmentalrelated activities.

Generation

Be it the adoption of sustainable office practices such as switching off lights during lunch hours to conserve energy, paper and print cartridge recycling or organized talks on environmental messages such as water conservation and waterways cleanliness, we actively encourage participation from staff in resource conservation and the 3Rs – reduce, recycle and reuse.

When relating to external audiences such as stakeholders, the company believes in continuous engagement and will continue to seek creative ways to engage them to increase the level of environmental awareness within the company and educate them on adopting sustainable practices.

3) How important is sustainability in the power generation business?

With growing scarcity of resources and the world's essential but increasing need for energy, it is important for related companies to provide energy-efficient solutions in a socially responsible manner.

At PowerSeraya, we strive to become 'greener' and deliver reliable energy while minimising the operation impact of our business on the environment.

As part of our commitment towards sustainability, we have recently developed the inaugural issue of our sustainability report; highlighting the green initiatives that PowerSeraya has taken, and what it means to be socially responsible to our stakeholders. It is indeed heartening to note our recent category wins at the ACCA Singapore Awards for Sustainability Reporting 2008. It further validates our approach towards sustainability.

Besides investing in emissions control equipment and clean burning Co-Generation plants, PowerSeraya has also adopted virtualisation software technology to reduce our energy consumption and thus, carbon emissions.

Companies in the power generation business need to recognise that playing their role in being socially responsible will, in the long run, benefit their businesses. Adopting sustainability into its business practices will create value for the company in terms of enhanced brand equity, customer and talent retention and acquisition, better management of reputational risks, as well as greater operational efficiencies through the optimal use of resources.

4) Can you share with us the future plans for PowerSeraya?

The company continues to look for new growth opportunities while, at the same time, stay focused on maximising its core business and people capabilities to augment its reach and presence as an integrated energy company.

In particular, the completion of our new 800MW Co-generation Combined Cycle Plant in early 2010 will add to our diversified portfolio of energy assets and serve as a new platform of growth to offer a competitive package including electricity, steam and water.

We continue to seek ways to enhance our staff's growth and development through training. We are also working closely with our parent company, YTL Power International, to tap on their wealth of expertise and knowledge to maximise our shareholder value and returns. – CONNECT

We welcome you to share your stories!

The editorial team reserves the right to select, edit and publish articles according to its editorial policy.

Send in your stories to the Editor at connect@smafederation.org.sg

Snapshots

Luncheon with CCPIT Representative Office

and China Shandong Representative Office

in Singapore

7 September 09 Date:

Venue: Meritus Mandarin Hotel

01. Middle: Mr Poh Choon Ann, SMa Vice President and Chairman of China Business Committee Left of Mr Poh: Ms Zheng Shaoping, Chief Representative, China Shandong Representative Office in Singapore. Right of Mr Poh: Mr Zhao Huitian, Chief Representative, China Council for the Promotion of International Trade (CCPIT) Representative Office in Singapore





Event: Industrial Automation Vietnam /

PIA Vietnam 2009

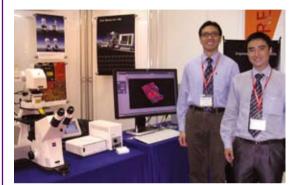
Date: 16 - 18 September 2009

Venue: Saigon Exhibition & Convention

Center (SECC)

01. Representatives from Carl Zeiss Pte Ltd showcasing some of their latest products at the Singapore Pavilion.

02. Representatives from I-Wire (Asia) Pte Ltd explaining their products to visitors.





02

Event: Medical Fair Thailand 2009

Date: 16 - 18 September 2009

Venue: Queen Sirikit National Convention Center

01. Thailand's Deputy Minister of Public Health, H.E. Manit Nopamornbodee (fourth from right) graced the opening ceremony.

02. The world's first bluetoothed controlled wheelchair developed by Singapore based Winner SG Pte Ltd is one of the highlights of the pavilion.





CEO Luncheon SPA award

Date: 22 September 2009

Venue: Pin Si Chinese Restaurant, SAFRA Yishun

- 01. Mr Albert Lim, Chairman of Packaging Council of Singapore, receiving the Singapore Packaging Agreement's Certificate of Active Participation from Mr Andrew Tan, CEO, National Environment Agency.
- 02. Another recipient of SPA Certificate of Active Participation, F&B IG Chairman, Mr Sunny Koh.
- 03. Mr Suresh Narayanan, Managing Director, Nestle Singapore, recipient of SPA's Certification of Active Particpation giving a presentation of his company's environmental initiatives.







Meeting with Delegation from Poland Event:

29 September 2009 Date:

Venue: SMa @ SPRING Singapore

01. Front row; fourth from left: His Excellency, Mr Waldemar Dubaniowski, Ambassador of the Republic of Poland in Singapore; Mrs. Bozena Czaja, Vice president of PAlilZ, Mr Hans-Dieter Bott, SMa Vice-President and Chairman for Trade & Investment FC.





Business Mission To China Guangxi & Event:

the 6th China-ASEAN Expo

18 - 25 October 2009 Date:

Venue: Nanning, Guangxi, China

- 01. Delegation understanding more on the CAFTA Pingxiang Logistics Park.
- 02. Mr Poh Choon Ann, SMa Vice President and Chairman of SMa China Business Committee giving a speech at the 6th China-ASEAN Business & Investment.
- 03. Mr Poh receiving a plaque from Vice Mayor of Beihai Municipal Government, Mr Yang Zhiyuan.







Treasure Your Employee's Mind

This article is brought to you by SMa's Health, Safety, Security and Environment (HSSE) Function Committee.

n today's competitive business world, stress at the workplace is a common phenomenon. Some forms of stress are normal and can even motivate employees to perform well. However, if employees are insufficiently equipped to cope with the stress, their health and level of effectiveness at the workplace diminishes. Take a breather and share the following tips to manage and reduce stress at the workplace with your employees or colleagues:

Prioritise your time

Jot down outstanding tasks and priortise them. Allocate time required for each task and stick to your plan while allowing for flexibility if unexpected situations arise.

Manage your emotions

Practise deep breathing exercises. During tense situations, momentarily excuse yourself and take a few deep breaths to calm down before re-evaluating the challenges.

Communicate effectively

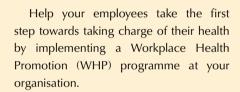
Think before speaking and be aware of your choice of words, tone of voice and other non-verbal communicators such as body language, hand gestures and eye contact. Be sensitive to the other party's responses and promote an open dialogue, whenever possible.

Share your work problems

Share your work problems with your colleagues as they may have faced similar situations before and may be able to suggest solutions to the challenges faced. Reciprocate by lending a listening ear to other colleagues if necessary.

To build a healthy and motivated workforce, companies must be committed to invest in their employees' health, including mental well-being, as it will ultimately contribute to a healthier corporate bottom-line.

Companies that are interested to implement a mental well-being education programme can find out more about Treasure Your Mind from the Health Promotion Board's website www.hpb.gov.sg/healthatwork or call 6435 3285.



The Health Promotion Board (HPB) provides financial assistance and guidance on how your organisation can initiate and sustain a WHP programme. The WHP Grant helps to co-fund up to 50% of your WHP project and can cover a wide range of services, including:

- Consultancy services and training on how to start a WHP programme
- Health screening and programmes on weight management, healthy eating, physical activity, stress management, smoking cessation and others.

SMEs can also tap on the WHP Grant for SMEs, which co-fund up to 90% of the cost incurred for their WHP project. Both grants are capped at \$10,000 for each application.

To find out more about HPB's grants, programmes and services, please visit www.hpb.gov.sg/healthatwork or call 6435 3704. – CONNECT ■

Say NO to low export competency hindering overseas growth







Mr Lum Wai Onn

Ms Catherine Chia

Mrs Annie Tan

ocal SMEs looking to export overseas need not fret any longer. IE Singapore, in response to numerous enquiries, has launched a new assistance programme that will take the guesswork away, and lead businesses head on in penetrating a new market.

Launched in May 2009, the Exporter Development Programme (EDP) is a structured five to seven month scheme that aims to equip businesses with the skills and knowledge to develop their export competencies.

Through this programme, exporting overseas no longer need to be on an opportunistic basis or based on trial and error, but a carefully planned strategy designed to further grow the business. The EDP consists of three components:

- · Export Strategy Planning;
- Export Training Course and Supplementary Workshops; and
- Overseas Market Visit.

Mr Lum Wai Onn, Director of Natrad Food, producer of Dancing Chef Paste & Sauces, said, "We joined the EDP because we wanted to bring our paste and

sauces into the global market place, thereby making 'Dancing Chef' an international brand."

Under Export Strategy Planning, participants will be able to engage an Export Coach to guide them in strategising their export plans. On top of that, a pool of experienced trainers from the Export Training Course is also on-hand for companies to leverage on.

Ms Catherine Chia, Managing Partner of NPE Print Communications, one of the seven pilot companies that signed up for the programme, said, "Our export coach helped us identify the strengths and weaknesses of our company's structure and products. He helped us uncover an enormous amount of export potential."

The Export Training Course, conducted by Kaplan Financial, will cover topics such as export business strategy and planning; export sales and negotiation skills; and ways to conduct an effective market research. The course will be supplemented by workshops conducted by IE Singapore.

One participant who benefitted from the Export Training Course is Mrs Annie Tan, Executive Director of Robust Life Compact. She said, "The curriculum of the Export Training Course and Market Research Workshop provides practical exportrelated insights which enabled us to understand the importance of not rushing into a market but to study the business dynamics and environment carefully first."

To top it off, at the end of the programme, participants will go on an overseas market visit. Organised by IE Singapore, the three to five day trip will not only allow participants to familiarise themselves with the market, but also to apply their export strategy firsthand, gather market information, and meet prospective customers and/or distributors.

find out more about the programme, SMS <ADV> <EDP>space<your email add> to 93293908; visit www.iesingapore. com/edp or call our customer service centre at 1800-IESPORE (1800-4377673).



We want your feedback!

We are continuously working to improve CONNECT to better suit your needs. Please let us know your feedback and suggestions. Kindly email to hq@smafederation.org.sg with your subject title "CONNECT Feedback". Thank you.



Marine Hydraulics Engrg Pte Ltd

Mago Manufacturing & Trading Pte Ltd

Creeyan Laboratories Pte Ltd

Astech Pte Ltd

Calendar

Garchaar					
30 Oct 2009	Logistics Capability Development Seminar : Gearing For The Economic Upswing				
10 Nov 2009	Capability Development Funding for SMEs				
12 Nov 2009	Understanding Initial Public Offering (IPO) and Pre-IPO Financing in Singapore				
16 Nov 2009	Sustainable Manufacturing: Developing a Green Heartware				
17 Nov 2009	Fengshui talk: What Do You Expect for 2010?				
22 - 24 Nov 2009	SMa Business Mission to Perak, Malaysia				
23 - 26 Nov 2009	THE BIG 5 - Int'l Building & Construction Show, Dubai				
1 - 4 Dec 2009	Conbuild Vietnam 2009				
1 - 4 Dec 2009	CIA 2009				
2 - 4 Dec 2009	Asia Television Forum (ATF) 2009				

For more information on events, please visit our homepage: www.smafederation.org.sg

Members' Spotlight

Oilfield Services and Supplies

Oilfield Services and Supplies (OSS) will be doubling its production capacity with its new facility of 40,000 sq ft at Joon Koon Road. The move was part of the expansion plan to cater additional space for the Health, and Safety Executive (HSE) requirements. The facility has a built-in area of 21,000 sq ft with 10 sets of 6.3 tonne and 2 sets of 5 tonne overhead cranes. OSS has a wide network of customers in Asia Pacific, Australia, Russia, Middle East and Africa, and is currently in midst of setting up a workshop in China. Recently, a license was awarded to the company by Tenaris Hydril DSTJ to perform drill pipes connection machining.

Medtronic International

Global medical technology leader, Medtronic recently held its official opening of a \$80 million manufacturing facility in Singapore's Changi South in anticipation of the significant growth of Asia's medical device industry. The state-of-the-art facility is Medtronic's international headquarters, overseeing operations in regions such as Asia, Latin America, Canada, Europe, Africa and Middle East and Australia. This new facility will add on to Medtronic's stable of more than 250 facilities. offices and research centres in 120 countries. The facility will produce Cardiac Rhythm Disease Management (CRDM) devices and production is expected to commence in 2011. The company also said that it is in talks with potential partners to establish R&D facilities in Singapore.