Taking the productivity leap

Productivity is not just about doing more with less. Improving productivity is a long-term, continuous process of achieving sustainable growth. SMEs in Singapore can leverage a range of tools and schemes to help them take the leap and reach a higher level of productivity and competitiveness.

AN ENGINE FOR PRODUCTIVITY GROWTH
FriarTuck’s innovative optimisation engine has evolved to drive workforce productivity for companies large and small.

MAKING PATENT SEARCHES A SNAP
When Jeffrey Tiong found that existing patent search products weren’t meeting his expectations, he decided to develop a product of his own.
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SPRING Singapore is the enterprise development agency for growing innovative companies and fostering a competitive SME sector. We work with partners to help enterprises in financing, capabilities and management development, technology and innovation, and access to markets. As the national standards and accreditation body, SPRING also develops and promotes internationally-recognised standards and quality assurance to enhance competitiveness and facilitate trade.

FEATURE STORY

Taking the productivity leap

Yvette Chua always knew that she wanted to pursue an overseas education. "Gaining the experience of studying abroad was important to me, but I also wanted to make sure that when I return to fulfil my bond, it would be in a place where I would enjoy my work and contribute effectively," she recalls. The idea of working at SPRING proved to be a draw for her, as it is one of the few agencies that plays a crucial role in shaping Singapore's economy.

Today, the 24-year-old works as a Senior Officer in SPRING’s Industry Development Group, Manufacturing & Engineering Division. "Working alongside small and medium enterprises allows me to learn more about their operations and play a small part in helping them grow. This dynamic interaction is both challenging yet tremendously rewarding," she says.

In Junior College, Lee Jun Kiat spotted a business opportunity while working on a school theatre production. Today, the seven-year-old company provides a one-stop solution for its corporate clients’ marketing and branding needs.

It comes as no surprise then, that the EDS tagline “Be Your Own Boss” drew Jun Kiat to the scholarship programme. Now completing his university education, the 24-year-old is looking forward to his two-year stint at SPRING upon his graduation next year. Already, he has gained much from the EDS, thanks to a 10-week internship with SPRING before entering university. “Being an entrepreneur myself allows me to better relate to the needs of the entrepreneurial community. I hope this will add value to my work at SPRING,” he said with a smile.

It was Home Economics classes in Secondary school that affirmed Fiona Lee’s passion for food. Since then, she had fed her ardour by taking culinary classes, particularly in baking, and selling her creations to friends. Her dream is to have her own patisserie, which will provide personalised confections.

Yet the 19-year-old knows that having a passion for something isn’t enough to turn it into a successful business. This led her to the SAKAE-SPRING Executive Development Scholarship, where she is co-sponsored by F&B company Sakae Holdings. Slated to enter university in the coming months, Fiona can’t wait to embark on this journey of discovery. “I am privileged to be selected and hope to learn more from the people who have made it such a success,” she says.

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On 1 September, some 80 business leaders from 30 private education enterprises attended the inaugural SPRING Education Innovation Seminar as part of the Education Innovation Initiative. The Initiative aims to encourage SMEs to leverage innovation for their next stage of growth by building capabilities in experiential learning, developing scalable knowledge assets to accelerate market access, and enabling administrative and organisational excellence. The seminar is part of a series of activities and resources to support SMEs in their innovation journey.

SMEs Received $6.7 million for Productivity Improvement Projects

SPRING Singapore, the National Trades Union Congress and the Singapore Workforce Development Agency have worked with manpower services firm TCC group to launch an initiative that aims to create a ready pool of part-timers for the retail and food services industries. Mr Lim Hng Kiang (above), Minister for Trade and Industry, announced this at the Retail and Food Services Productivity Conference on 20 September. He also announced a study commissioned by SPRING to compare the productivity levels of local retail and food services companies with those overseas. SPRING’s retail and food services productivity plans have so far benefited 80 SMEs with a total of $6.7 million.

Precision Engineering SME First in Asia to Acquire German Technology

Precision engineering SME, Feinmetall Singapore, which invested $1 million in its ViProbe® Assembly Facility, opened the plant on 19 September. The facility will manufacture, assemble and customise the vertical probe card to suit its customers’ needs. It is supported under SPRING’s Technology Innovation Programme (TIP).

Checks Stepped up to Ensure Fair Deal for Consumers

With rising food prices, consumers are becoming more concerned about what they are getting for the prices they pay. SPRING has stepped up the frequency of spot checks on the accuracy of weighing scales to ensure consumers get a fair deal. Recent spot checks at seafood hawker stalls and restaurants on 21 September showed that business owners are doing their part by ensuring that their weighing scales are accurate. Since July this year, SPRING has been encouraging food retailers, hawkers and restaurants to use electronic scales, which are more accurate than spring scales, thus reducing the chances of error.

Business Leaders Forum

SMEs were encouraged to foster innovative thinking at the SME Business Leaders Forum, organised by SPRING Singapore and the Business Leaders Alumni Club on 1 – 2 September, as part of SPRING’s Business Leaders Initiative. The Initiative has been expanded to groom more ‘fresh talent’ for SMEs. It includes internships for students at SMEs and customised leadership training. SPRING is also developing an online checklist to help managers identify their strengths and shortcomings in various aspects of business.
Taking the productivity leap

Productivity is not just about doing more with less. Improving productivity is a long-term, continuous process of achieving sustainable growth. SMEs in Singapore can leverage a range of tools and schemes to help them take the leap and reach a higher level of productivity and competitiveness.

With well over 90% of businesses being SMEs employing more than 60% of the workforce, Singapore can only achieve productivity gains if our SMEs raise their game.

To help SMEs improve their productivity and innovation capabilities, SPRING Singapore and the Singapore Workforce Development Agency launched the SME Productivity Action Roadmap (SME-PRO) in June 2010. The aim is to encourage SMEs to “Be Aware” of their productivity challenges, before “Getting Trained” and “Taking Action” by tapping government schemes to address productivity gaps.

**Productivity@Work**

One of the initiatives under SME-PRO is the Productivity@Work portal, which allows businesses to access information and resources that can help them take action to improve productivity. For instance, SMEs can use the Integrated Management of Productivity Activities (IMPACT) assessment tool to identify the company’s strengths and weaknesses in productivity management.

There is also an online productivity calculator for businesses to work out their productivity performance based on four key indicators – labour productivity, labour cost competitiveness, capital productivity and profit-to-value-added ratio.
Under the Productivity Management Programme (PMP), advisors at the five Enterprise Development Centres (EDCs) will assist SMEs with their productivity issues.

Since its launch, the portal has seen more than 89,000 unique visitors and over 218,000 page views. Some 200 users have used the interactive online version of the IMPACT assessment tool.

Productivity Management Programme

In addition, SPRING rolled out the Productivity Management Programme (PMP) for SMEs in October 2010 to provide training, diagnoses, and advice on productivity related matters and projects. SMEs can also get advice on the relevant government schemes.

Under the PMP, advisors at the five Enterprise Development Centres (EDCs) will assist SMEs with their productivity issues. The five EDCs are located at the Association of Small and Medium Enterprises (ASME), Singapore Manufacturers’ Federation (SMa), Singapore Malay Chamber of Commerce and Industry (SMCCI), Singapore Chinese Chamber of Commerce and Industry (SCCCI), and the Singapore Indian Chamber of Commerce and Industry (SICCI).

Mr Eugene The, General Manager of EDC@ASME, noted that productivity is not on top of the agenda for many SMEs. He said, “SME entrepreneurs often focus on the frontline area of their business and may take a secondary focus on elements that lead to better growth of their company. One such core element is productivity – understanding the concept and framework and putting it into practice.”

He added: “Under the PMP, EDC@ASME helps to enrich SMEs on the fundamentals and measurement of productivity. This will help SMEs better understand productivity and how it can improve their bottomline.”

As of June 2011, a total of 267 IMPACT assessments have been completed, while 1,957 SMEs have benefited from the workshops and productivity advisory services provided under the PMP.

Sectoral productivity growth

Besides introducing broad-based programmes to help companies boost productivity, SPRING is also rolling out initiatives in some of the key sectors identified by the National Productivity and Continuing Education Council (NPCEC).

In April, SPRING launched the productivity plans for the food services and retail sectors. For the food services sector, the $75 million plan will provide companies with the necessary support and tools to improve their competitiveness. For the retail sector, the $86 million plan will help raise service excellence and enhance business processes.

Taking productivity to the next level

Read on to find out how companies, such as Min Hiang Food and E-steel have tapped SPRING’s initiatives to boost productivity. If you would like to achieve your productivity goals, please visit www.spring.gov.sg for more information.

SMEs can use the Integrated Management of Productivity Activities (IMPACT) assessment tool in the Productivity@Work portal to identify the company’s strengths and weaknesses in productivity management.
Small steps towards BIG gains
E-Steel’s productivity journey began with the assessment of the current state of the business to identify areas for improvement.

“Think big, start small, but do it now” – this simple principle has shaped much of E-Steel’s productivity journey.

While raising productivity is not an overnight task, Mr Nick Chong [second from right in photo], General Manager of E-Steel, believes that companies should proactively address productivity gaps.

“Productivity is not about the end results; it’s the processes that matter. My concept is to start small and to continue improving. They may not be breakthrough improvements, but these small steps will yield big results,” says Mr Chong.

Likening the process of raising productivity to a visit to the doctor, he explains: “A sick person will only visit the doctor when he experiences pain. For a company to make changes in its operations, it must feel the pain.”

Meeting customer needs
For Mr Chong, this pain came in the form of negative feedback from customers and staff. As a distributor of steel fittings and piping systems, on-time delivery is crucial.

Doing MORE with less
By automating key processes, Min Hiang Food increased its production capacity by an impressive 275%.

Forget about multi-tasking and long hours. Increasing productivity is about working smarter, not harder, says Mr Lee Cheng Kang [right], Managing Director of Min Hiang Food.

As one of Singapore’s leading beverage suppliers, Min Hiang believes that productivity is key to accelerating the company’s growth. “We wanted to increase our production capacity, and we knew that automation was the way to go. The manual processes took up too much time and limited the expansion of the company,” explains Mr Lee.

Automating processes
With support from SPRING Singapore’s Technology Innovation Programme (TIP), Min Hiang made substantial investments in machinery to improve productivity. “We worked with a consultant to identify areas where we can make the best possible use of technology. Increasing productivity can be expensive, but the long-term benefits outweigh the short-term costs. We are now able to fill orders from major customers, which we were unable to do previously,” says Mr Lee.

Min Hiang distributes 16 different varieties of bottled drinks and jelly products to convenience stores, restaurants and school canteens across Singapore. Its major customers include 7 Eleven, NTUC Fairprice Co-operative and Cheers Holdings.

The automation of manual processes such as mixing ingredients and filling and capping of bottles enabled Min Hiang to not only speed up production but also reduce contamination and achieve quality consistency. As fresh ingredients such as almond nuts and soya beans are used in production, increased automation also extended the shelf life of the drinks, resulting in reduced losses.

Mr Lee adds: “Previously, we could only produce less than 100,000 bottles per month. As we were unable to cope with high demand, business expansion was limited. With automation, we were able to quadruple our production.”

Increased productivity
With the introduction of new equipment, Min Hiang increased its production capacity from 80,000 to 300,000 bottles a month. Production time has also been reduced by 30% due to the faster capping and cooling processes.

Overall efficiency has also increased – Min Hiang no longer has to operate the factory 24 hours a day. While most of the work
“Our customers were unhappy that we could not meet deliveries consistently. Our sales staff were also frustrated that we were unable to improve our operational performance.”

He adds: “As our products were not properly identified, we often sent the wrong goods to our clients. Sales were increasing but we were unable to cope. We knew we had to change our processes in order to grow.”

Recognising the need for a systematic approach to increasing productivity, Mr Chong embarked on the IMPACT (Integrated Management of Productivity Activities) assessment. The IMPACT assessment tool, developed by SPRING Singapore, enabled E-Steel to review the current state of the business through a productivity diagnosis and identify the specific actions to take to improve productivity.

A clear direction
As a result of the assessment, E-Steel started to sort its increasing stock of piping components according to size and thickness. Fast-moving items were placed closer to the aisles to minimise picking time.

In addition, automation helped to minimise the risk of accidents in the warehouse and improve efficiency. For example, E-Steel installed an overhead crane to carry steel piping instead of using a fork lift, thus freeing up space for storage. The crane, which used to be manually operated, is now controlled from the ground, reducing the time spent on inventory activities. While it used to take a worker an average of 30 minutes to find specific items, it now takes only one minute.

“The products used to be all over the place, and it was often very confusing for the workers preparing for deliveries. We had to expand vertically to maximise space as steel pipes can be very long, and we have limited space,” notes Mr Chong.

Sustaining productivity growth
Since the launch of productivity improvements in 2009, E-Steel has doubled its sales and achieved a 30% increase in productivity. Looking ahead, Mr Chong says its top priority is to sustain productivity for the long term and to maintain the momentum of productivity improvements.

Mr Chong says that processes have been automated, no jobs were affected. Employees were trained to operate the machines instead.

“The staff members were receptive to the changes. The workers used to do shift work, but automation of the main processes has made it less tiring for them,” says Mr Lee.

Mr Lee adds that more time can now be devoted to developing new products and diversifying the company’s product offerings. Besides launching a new cup jelly, Min Hiang is looking to further extend the shelf life of its products. It also plans to automate its ordering system.

Expansion is also on the cards for Min Hiang. Mr Lee hopes to acquire a larger factory space to address the company’s growth demands.

“Improving productivity is also about sustainability – that’s why it’s a journey. We need to constantly improve work conditions and carry out regular audits to find out the best way to do so. Even if it is a small change, at least it’s a beginning,” he says.

Besides sending the employees for training to ensure that productivity initiatives are supported by the employees at all levels, Mr Chong also leads by example. He believes that productivity is rarely driven from the bottom up, but rather starts at the top and filters down.

“We want our employees to get involved. It is only when they understand the big picture and realise the impact of their efforts that objectives are met,” notes Mr Chong.
Raising Productivity: Help for SMEs

Productivity@Work: www.enterpriseone.gov.sg

Training

Productivity Initiatives in Services & Manufacturing (PRISM)
Productivity training programmes

- WSQ Certified Productivity and Innovation Manager Programme
  Productivity and business innovation concepts and applications

- Certified Productivity Practitioner Programme
  Productivity tools and techniques

- Productivity Manager Programmes
  Productivity concepts and applications for retail, F&B and hospitality sectors

- SME Quality Initiatives to Assist, Nurture and Grow (SME QIANG)
  Productivity training designed for SMEs

Assistance

- Productivity and Innovation Credit (PIC)
  400% tax deduction up to $400,000 or cash conversion up to $30,000

- Innovation Voucher Scheme (IVS)
  $5,000 grant to adopt technology and tap expertise

- Increase SME Productivity With Infocomm Adoption & Transformation (ISPRINT)
  Up to 50% grant (or 70% for first-time adopters) for infocomm adoption

- Inclusive Growth Programme (IGP)
  Up to 50% grant for business operations improvements and skills training

- Local Enterprise Finance Scheme (LEFS)
  Up to $15 million loan to purchase / upgrade factory and equipment

- Micro Loan Programme
  Up to $100,000 loan to fund operational improvements and automation

Seek help at:

EDC@ASME Association of Small and Medium Enterprises 6513 0388
EDC@SCCCI Singapore Chinese Chamber of Commerce and Industry 6337 8381
EDC@SICCI Singapore Indian Chamber of Commerce and Industry 6508 0147
EDC@SMa Singapore Manufacturers’ Federation 6826 3020
EDC@SMCCI Singapore Malay Chamber of Commerce and Industry 6293 3822

Supported by:
One way to improve productivity is doing more with what you’ve got. But how can this be achieved? “Make sure your resources are optimally employed,” says Alan Sevugan (right), CEO of FriarTuck.

Mr Sevugan started FriarTuck in 2003 together with Dr Martin Henz, one of his professors at NUS. Using breakthrough mathematical techniques, FriarTuck’s “optimisation engine” enables companies to manage and deploy their resources more efficiently.

The value proposition, explains Mr Sevugan, lies in improving manager and worker productivity. “Our product is based on an optimisation engine that takes complex data, variables and constraints, and then provides optimal solutions for staff scheduling and deployment. This can improve productivity by 70% to 80% and reduce labour costs by 2% to 6%,” he adds.

“Making sure your resources are optimally employed is one way to improve productivity”
– Mr Alan Sevugan, CEO, FriarTuck

From plan to reality
FriarTuck grew out of an entry in a series of business plan competitions that netted the founders some $70,000 in prize money. They put their winnings back into the company and, with support from SPRING’s Startup Enterprise Development Scheme (SPRING SEEDS), refined their software to bring it to the market.

FriarTuck’s software has evolved to be applied in a range of industries. Initially, it was conceived as a way to help sports event organisers with scheduling. The company’s first big break came in 2003 when NASA, America’s national space agency approached it to explore applying its know-how to scheduling engineers and scientists for its Mars Exploration Rovers mission. “The challenge was to coordinate a large number of people across multiple time zones – including taking the ‘Martian time zone’ into consideration!” says Mr Sevugan.

With the NASA success under its belt, FriarTuck decided to focus on workforce optimisation. “We ranked seven or eight different industries in terms of their potential for our product, and healthcare came up tops,” says Mr Sevugan. “It was a sector that we felt could benefit the most from our software, given its problems with staff shortages and critical demand.”

FriarTuck secured Changi General Hospital as a client in 2005, followed by the National University Hospital. Today, its software is used in most of the public hospitals in Singapore. The company is also working with the hospitals to develop software to optimise their operating theatres.

Besides sports and healthcare, FriarTuck’s software has also been used in the security sector and government agencies. Most of its deployments are in large enterprises of more than 1,000 staff. Mr Sevugan hopes to change this. “We want to make our software more accessible to smaller companies by turning it into software as a service (SaaS). Now that our product has been refined and is more market ready, we can make it more affordable to smaller companies.”

Defining new markets
“We realise that the market needs to be ready for our product, vis-a-vis having the electronic systems in place, and the necessary data available as well as the willingness to try new solutions.” Hence, the company will be focusing its expansion efforts on larger developed markets. “We’ve made inroads into Malaysia and Thailand, but they are still not ready. So we are now developing our market in Australia,” says Mr Sevugan.

“It’s also a question of market size and breadth. We need to get into overseas markets as Singapore is too small for us to grow,” says Mr Sevugan. To further expand its client base, FriarTuck will also be targeting the F&B industry.

Be sure to have a clearly defined target market, but also reassess this regularly as your capabilities and products evolve. Find out how SPRING’s SEEDS programme can help your business grow at www.spring.gov.sg/Entrepreneurship.
Bring your technology ideas to market

They are doing it

The Technology Enterprise Commercialisation Scheme (TECS) provides you with the vital support and resources to help convert your breakthrough R&D concepts and proprietary IP into a promising business.

We welcome proposals in the following technology areas:
• Biomedical Sciences (excluding Drug Discovery)
• Chemicals, Advanced Materials and Micro/Nanotechnology
• Electronics, Photonics and Device Technologies
• Information and Communication Technology

For more information on the supported companies and their technology ideas, visit TECS awardees on www.spring.gov.sg/tecsportal
As Jeffrey Tiong discovered while working as an intern in the US, patent search and analysis can be a tedious and frustrating process. What set him apart from others with similar experiences was that he decided to do something about it. “The tools on the market just weren’t good enough. So I had the idea that with my practical experience working with patent search and analysis, I could create something better,” says Mr Tiong.

In 2007, having finished his internship in the US and graduating from NUS with a degree in bio-engineering, Mr Tiong decided to take the plunge and try turning his idea into reality. “I got the start-up bug during an industry attachment at a small company a few years before. That led me to participate in the NUS Overseas College programme, which sent me to the US for a year to study business and entrepreneurship and work full-time in a start-up.”

Mr Tiong started by applying for funding from the Media Development Authority and received a $55,000 grant, which he used to establish Patsnap, the company that he would use to further develop his ideas. His first product was a professional search and analytic tool that organisations can use to analyse patents and understand the competitive landscape around the technology or products they are developing, and assess whether they are infringing existing patents.

Patsnap proved to be a success with organisations around the world adopting its technology. Customers include research institutes, corporates with R&D operations, and universities. In Singapore, Patsnap’s clients now include A*STAR, NUS, NLB and IPOS. The company also started venturing overseas by taking its sales into China this year, and so far has signed up several law firms and universities there. In the US, the Massachusetts Institute of Technology is a client, and the King Abdullah University of Science and Technology in Saudi Arabia also uses Patsnap’s search product.

During the development of the original Patsnap search technology, Mr Tiong realised that image-based patent searches, rather than text searches, could greatly simplify things and make the technology more accessible to non-specialists. Realising that he needed more manpower to develop such a product, he turned to SPRING at the end of 2009 for a grant under the Technology Enterprise Commercialisation Scheme (TECS).

“Applying for the TECS grant took quite a bit of work – writing a proposal, presenting a mini-business plan, and explaining what made our technology unique and innovative – but it was very helpful to get the funding in the end. I would definitely recommend other startups to apply for such grants,” says Mr Tiong.

With the funding secured and additional talent recruited, Patsnap has now rolled out a beta version of its image search technology to selected clients, and the feedback has been positive. There are several kinks to smoothen out, including increasing the speed, robustness and scope of the product, says Mr Tiong, but the future looks promising. “Clients have responded enthusiastically and asked us to make it work for more than just design-related patents, as well as expanding the functionality to cover trademark images.”

Patsnap has no plans to slow down after its initial successes. In addition to the ongoing work on its existing products, Patsnap is further extending its product suite to include a programme for valuing patent portfolios. This will allow users to go online and get an understanding of how much their intellectual property is worth.

With this growing portfolio of products and strong demand from its key Asian markets of China and Taiwan, the future looks bright for Patsnap. As Mr Tiong points out, “patent filing needs in Asia are growing by leaps and bounds. China has just become the largest patent filing jurisdiction in the world, and the potential there is immense.”

Listen to your customers to learn what they need and how you can help them. Find out how TECS can help your technology-related startup at http://apps.spring.gov.sg/tecsportal/
In today’s challenging economic environment, companies face a harsh reality: innovate or lose out.

This is especially crucial for SMEs if they want to gain a competitive edge. Yet those who are willing to innovate might lack the expertise or resources to do so.

To help SMEs overcome the challenges of adopting technology innovation as a competitive strategy, SPRING Singapore launched the Technology Innovation Programme (TIP) in 2006. As part of the programme, five Centres of Innovation (COIs) were set up to increase SMEs’ access to technology expertise and infrastructure in some key sectors. These cover electronics, environmental and water technology, marine and offshore technology, precision engineering, and food manufacturing.

Established in partnership with local polytechnics and research institutes, the COIs are one-stop centres that offer technology consultancy and advice, as well as test-bedding facilities.

“The innovation journey is not an easy one. Often, it is uncertain whether novel ideas can be developed into commercially successful products. The COIs play a crucial role helping companies, especially in the early stages where the risk of failure is high, to commercialise their innovative ideas and move up the innovation ladder,” says Mr Tan Kai Hoe, Deputy Chief Executive of SPRING Singapore.

Build up electronic capabilities with COIE

Since its inception in 2008, the COIE has helped more than 70 companies develop new products and processes, and engaged more than 150 companies through projects, courses and seminars. In the next few years, the COIE aims to help more companies move up the innovation ladder through IP-intensive projects and key growth areas such as smart energy, green solutions and healthcare, as well as lifestyle and assistive solutions.

GPS Lands

GPS Lands, which specialises in location-based services, is one company that tapped the assistance of the Centre of Innovation for Electronics (COIE). Recognising the potential of new applications that depend on location based technologies, Mr Gerry Ong, Managing Director of GPS Lands, wanted to develop a system that could be used both indoors and outdoors, without the need for expensive network upgrades or specialised equipment.

“To develop indoor positioning, we had to have a strong knowledge base. I approached the lecturers at Nanyang Polytechnic since I have previously worked with them, and they encouraged me to partner the COIE,” he explains.

Mr Ong agrees: “The COI has labs and equipment that small companies like mine can only dream of. We were able to tap the knowledge and expertise at the COIE. All we had to do was to speak to one person, and he was able to direct us to the experts in the field. It’s a one-stop centre. The staff also helped us to craft a plan that enabled us to consider points that we have never thought of,” Mr Ong adds.

Besides an increase of $500,000 in revenue, Mr Ong says the collaboration with COIE has enhanced the knowledge and skills of his staff, enabling him to turn his concept into reality.

Eleconic Vision

Eleconic Vision also partnered the COIE to customise patented illumination technology for niche industries such as semiconductors and solar panel manufacturing.

Explaining how the partnership with the COIE has enabled Eleconic Vision to gain an advantage in the industry, Mr Low says: “The COIE has helped us to bridge the need for in-depth knowledge. This allows us to concentrate on developing systems and applications that meet customer needs.”

As a result, Eleconic Vision not only doubled its sales but also expanded into new industries such as the automotive industry, and entered overseas markets including China, Malaysia and Thailand.

Mr Low believes that by partnering COIs, SMEs can benefit from faster turnaround time and cost savings. “For SMEs, cost is important. You don’t want to spend too much hiring manpower to do research that is needed for the growth of the company. A company can also get their product to the market faster with help from a COI, as the technical expertise is already available,” says Mr Low.

Visit www.spring.gov.sg to find out how your company can partner a COI.
Technology Innovation Programme

Grow your business through technology innovation.
Technology can make a big difference to your business. Create new products, improve existing processes, find new ways to serve your customers and develop new business models.

We will help you access a ready network of technology infrastructure and provide the vital support to enhance your capabilities and catalyse technology innovation projects.

Visit www.spring.gov.sg/tip for more information.
Extending the shelf life of food products through innovative packaging

In the modern supermarket, the food products we encounter in our daily life are usually beautifully wrapped and packaged. While the appearance of a product is designed to appeal to the customer, the packaging is actually designed to fulfill a more important function — to protect and preserve the product it contains. Moreover, by extending the shelf life of food products through the right packaging, we effectively reduce the amount of food that goes to waste before they are ready for consumption. To develop a packaging solution successfully requires detailed study of product characteristics, deterioration mechanisms and interactions. At the same time, it’s not rocket science either. For most food products, the shelf life can be extended simply through the use of appropriate packaging solutions.

Here are a few examples of successful projects delivered by the Food Innovation Resource Centre (FIRC), a strategic partnership between SPRING Singapore and Singapore Polytechnic.

Protecting ‘kaya’ from oxidation
Hai’s Pte Ltd engaged the services of FIRC to resolve a rancidity issue in their existing ‘kaya’ (coconut jam) packaging, as kaya is particularly susceptible to oxidative fat rancidity. To prevent the kaya from being oxidised, the packaging material should act as a barrier against oxygen to minimize its contact with the kaya contents. FIRC analysed the barrier properties of various packaging materials before selecting the most optimal solution for implementation. Hai’s successfully improved the shelf life of the kaya by more than two times.

Keeping mushrooms fresh
High-barrier films are particularly useful in Modified Atmosphere Packaging (MAP) to extend the life of fresh foods like fish and meat products. The packaging for fresh produce such as mushrooms pose a different set of challenges altogether. The high respiration rates of mushrooms lead to an accumulation of excessive moisture in the packaging and causes premature deterioration of the mushrooms. Research at FIRC led to the discovery that films with high gas permeability combined with anti-fogging properties is the most effective in slowing down the respiration rates of mushrooms, thus reducing the amount of condensate on the packaging.

Extending the shelf life of fish
Fish is one of the most popular food items in Singapore. However, fresh fish tends to be highly perishable and prone to chemical (oxidation of fatty compounds) as well as microbial spoilage. Metropolitan Fishery Group discovered a market potential for milk fish fillet and approached FIRC to explore the feasibility of using MAP to extend the shelf life of the fillets. FIRC took up the challenge and was able to double the shelf life of the fish fillets by combining a high-barrier packaging material with altered gaseous composition.

The ultimate goal of food packaging is to obtain an optimum level of protection to meet product quality and safety requirements. The value of the packaging lies in its ability to extend the shelf life of the food product, providing convenience and information, and addressing environmental requirements at the same time. SMEs looking to upgrade their packaging technology can explore and adopt the most cost-effective methods to extend the shelf life of their products, bringing them one step closer to exporting their food products and their brand into global markets.
Entreprenurship – A Driver for Innovation and Technology

2 – 5 November 2011

Hear what global think-tank leaders and entrepreneurs have to say about entrepreneurship as a driver for innovation and technology at the World Entrepreneurship Forum to be held for the first time in Singapore.

OPENING PLENARY
3 November, Thursday
Shangri-La Hotel

PUBLIC WORKSHOP
4 November, Friday
Nanyang Technological University

GALA DINNER
3 November, Thursday
Shangri-La Hotel

Guest of Honour:
Mr Teo Chee Hean,
Deputy Prime Minister, Coordinating Minister for National Security and Minister for Home Affairs

HIGHLIGHTS

Dr Ray O Johnson
Senior Vice President and Chief Technology Officer, Lockheed Martin Corporation, USA, guides the Corporation’s technology vision and provides corporate leadership in technology and engineering

Mr Ho Kwon Ping
Founder & Chairman, Banyan Tree Resorts, Singapore, a leading developer and operator of luxury hotels, resorts, spas and residential homes in Asia

Mr Al Hammond
Entrepreneur in Residence, Ashoka, USA, works to advance the well-being of low-income groups through entrepreneurship

Prof Su Guaning
President Emeritus, Nanyang Technological University, Singapore, has raised NTU’s profile as a leading research-intensive institution

Mrs Anneli Hulthén
Mayor and Chairman, City Executive, Gothenburg, Sweden, helps strengthen and develop trade and industry in the Gothenburg region

Mr Liu Chuan-Zhi
Founder, Lenovo, China, has grown his company from a small start-up into a global PC company

Mr Peter Lau
Chairman, Giordano, Hong Kong, has established the company as one of the best known leading apparel retailers in the Asia Pacific

Ms Reese Fernandez
Founder, Rags2Riches, Philippines, trains people to be social entrepreneurs in the Philippines

Network with business leaders and captains of industry and exchange views with them on how to better seize opportunities and tackle global challenges.

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Wendy Fong, 6290 5896 or world-entrepreneurship-forum@sg.pico.com

Organised by
PRODUCTIVITY MANAGEMENT PROGRAMME (PMP)

WHAT IS IT?
PMP is a programme launched under the SME Productivity Roadmap (SME-PRO), a joint initiative of SPRING Singapore and the Singapore Workforce Development Agency. It provides face-to-face assistance to SMEs to raise their awareness of productivity concepts and overcome their lack of productivity know-how to increase productivity. The programme is offered at the five Enterprise Development Centres.

WHAT LEVEL OF SUPPORT?
Under the PMP, Productivity Advisors at the Enterprise Development Centres (EDCs) will perform these functions:
• Conduct workshops to educate SMEs on productivity;
• Conduct clinic sessions using SPRING’s Integrated Management of Productivity Activities (IMPACT) Assessment tool to help SMEs identify specific productivity issues and advise the SMEs on productivity improvement plans and implementation;
• Provide advice to SMEs on available government assistance schemes for productivity improvements; and
• Link SMEs up with certified consultants to implement productivity projects.

HOW TO APPLY?
Contact any of the Enterprise Development Centres listed on the inside back cover.
Contact EnterpriseOne
Tel: +65 6898 1800
Email: enterpriseone@spring.gov.sg
Website: www.enterpriseone.gov.sg

BUSINESS ADVISORS PROGRAMME (BAP)

WHAT IS IT?
The Business Advisors Programme (BAP) matches Business Advisors (BAs) as qualified professionals with SME projects. BAP enables SMEs to draw from the BAs’ experience, expertise and business contacts to improve their businesses and processes. The advisory projects typically last up to six months with specific deliverables. The Singapore Institute of Management (SIM) has been appointed by SPRING Singapore to administer the programme.

WHAT LEVEL OF SUPPORT?
SPRING co-funds 50% of the fees paid to the business advisor, which is fixed at S$5,000 per month. The SMEs pay the other 50% plus an administration fee which is fixed at 3% of the total project cost.

HOW TO APPLY?
For enquiries, email: bap@sim.edu.sg

INTEGRATED MANAGEMENT OF PRODUCTIVITY ACTIVITIES (IMPACT)

WHAT IS IT?
Developed by SPRING Singapore, the Integrated Management of Productivity Activities (IMPACT) framework helps SMEs to increase their productivity in a systematic manner. There are five inter-related phases under IMPACT:

1. Establish a Productivity Management Function
   • Introduce a formal organisational structure with responsibilities and accountabilities.

2. Diagnose
   • Assess the current state of the business through a productivity diagnosis.
   • Identify strengths, weaknesses and areas for improvement.

3. Develop Road Map
   • Draw up a road map or action plan based on the findings from your productivity diagnosis.
   • Identify specific actions to take.
   • Set milestones, timelines, targets and responsibilities.

4. Implement Measurement System
   • Set overall productivity goals.
   • Seek commitment from top management.
   • Create awareness of productivity improvements.
   • Engage and encourage colleagues to participate.

5. Implement Performance Management System
   • Monitor and compare productivity performance against department, organisation and industry targets and benchmarks.
   • Put in place a review and feedback mechanism.
   • Share feedback readily with employees.
   • Reward employees for their efforts by linking their performance appraisals, staff recognition and incentive schemes with productivity.

You may download the Guide to Integrated Management of Productivity Activities (IMPACT) at the Productivity@Work website (www.enterpriseone.gov.sg).
Yvette Chua always knew that she wanted to pursue an overseas education. “Gaining the experience of studying abroad was important to me, but I also wanted to make sure that when I return to fulfil my bond, it would be in a place where I would enjoy my work and contribute effectively,” she recalls. The idea of working at SPRING proved to be a draw for her, as it is one of the few agencies that plays a crucial role in shaping Singapore’s economy.

Today, the 24-year-old works as a Senior Officer in SPRING’s Industry Development Group, Manufacturing & Engineering Division. “Working alongside small and medium enterprises allows me to learn more about their operations and play a small part in helping them grow. This dynamic interaction is both challenging yet tremendously rewarding,” she says.

In Junior College, Lee Jun Kiat spotted a business opportunity while working on a school theatre production. Today, the seven-year-old company provides a one-stop solution for its corporate clients’ marketing and branding needs.

It comes as no surprise then, that the EDS tagline “Be Your Own Boss” drew Jun Kiat to the scholarship programme. Now completing his university education, the 24-year-old is looking forward to his two-year stint at SPRING upon his graduation next year. Already, he has gained much from the EDS, thanks to a 10-week internship with SPRING before entering university. “Being an entrepreneur myself allows me to better relate to the needs of the entrepreneurial community. I hope this will add value to my work at SPRING,” he said with a smile.

It was Home Economics classes in Secondary school that affirmed Fiona Lee’s passion for food. Since then, she had fed her ardour by taking culinary classes, particularly in baking, and selling her creations to friends. Her dream is to have her own patisserie, which will provide personalised confections.

Yet the 19-year-old knows that having a passion for something isn’t enough to turn it into a successful business. This led her to the SAKAE-SPRING Executive Development Scholarship, where she is co-sponsored by F&B company Sakae Holdings. Slated to enter university in the coming months, Fiona can’t wait to embark on this journey of discovery. “I am privileged to be selected and hope to learn more from the people who have made it such a success,” she says.
October 2011 ➔ December 2011

3RD BUSINESS EXCELLENCE GLOBAL CONFERENCE and 17TH ASIA PACIFIC QUALITY CONFERENCE

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For more information, visit www.begcapqc.com

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For more information, visit www.spring.gov.sg/bl
Useful Contacts

Enterprise Development Centres (EDCs)

**Association of Small and Medium Enterprises (ASME)**
EDC@ASME
167 Jalan Bukit Merah
Tower 4 #03-13
Singapore 150147
Tel: (65) 6513 0388
Email: enquiries@edc-asme.sg
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**Singapore Chinese Chamber of Commerce and Industry (SCCI)**
EDC@SCCI
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Singapore 179365
Tel: (65) 6337 8381
Fax: (65) 6339 0605
Email: edc@edc-scci.sg
Website: http://www.edc-scci.sg/

**Singapore Indian Chamber of Commerce and Industry (SICCI)**
EDC@SICCI
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31 Stanley Street
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Email: edc@edc-sicci.sg
Website: http://www.edc-sicci.sg/

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EDC@SMCCI
15 Jalan Pinang
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Fax: (65) 6293 3905
Email: gadvisory@edc-smcci.sg
Website: http://www.edc-smcci.sg/

**Singapore Manufacturers’ Federation (SMa)**
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SPRING Singapore Building
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Singapore 159835
Tel: (65) 6826 3020
Fax: (65) 6826 3021
Email: edc@edc-smma.sg
Website: http://www.edc-smma.sg/

**Singapore Accreditation Council**
1 Fusionopolis Walk, #01-02
South Tower, Solaris
Singapore 138628
Tel: (65) 4279 1855
Fax: (65) 6559 0640
Email: sac@spring.gov.sg
Website: http://www.sac-accreditation.gov.sg

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Email: ref@nlb.gov.sg
Website: http://libguides.nl.sg/standards

**Standards Development Organisations**

**Singapore Manufacturers’ Federation Standards Development Organisation**
2 Bukit Merah Central, #03-00
SPRING Singapore Building
Singapore 159835
Tel: (65) 6826 3088
Fax: (65) 6826 3113
Email: tan_jinsoon@sma-sdo.org.sg
Website: http://www.sma.sg

**Singapore Chemical Industry Council Standards Development Organisation**
8 Jurong Town Hall Road
#25-04, The JTC Summit
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Website: http://www.scic.sg