

CONNECT

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The Way Forward for Manufacturing

- Budget 2017: Views from the Industry
- Singapore-Indonesia 50 Years of Partnership
- Enhancing our Manufacturing SMEs' Competitiveness
- 3D Printing: The Possibilities are Endless



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Dear Fellow Members

The economic growth for 2016 was 2% with Singapore's manufacturing ending on the upside last December.

This outcome was beyond expectation as it had been a long while since manufacturing output had registered such a strong performance, and it came on the back of the changing global political landscape and new technological disruptions.

That said, the spike in the manufacturing output has to be taken into perspective as this was held up mainly by the electronics and biomedical clusters. Overall, manufacturing still has some way to go towards sustained growth.

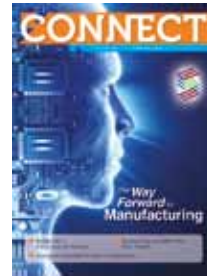
With the recommendations of the Committee on the Future Economy (CFE) and this year's Budget measures, the way forward for manufacturing is now clearer. And SMF is pleased to note that the government recognises the critical role Trade Association & Chambers (TACs) like SMF plays to help businesses in their transformation.

Therefore, I urge members to take advantage of the latest and also existing programmes and schemes to build up your business capabilities to innovate, and also to leverage on the federation's extensive network such as the Europe Enterprise Network (EEN) to scale up and go global.

This is also why we have specially included in this issue some examples of trends that are becoming more prevalent in the manufacturing sector. With innovation and internationalisation greatly encouraged, we are sharing the success stories of MegaPac Manufacturing, ST Kinetics Integrated Engineering and IPS Group.

I hope the stories of these members and the rest of the following pages will inspire you for a better 2017!

Douglas Foo
President
Singapore Manufacturing Federation



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**Information is correct as of March 2017.*

Welcoming the Year of the Rooster



7 February 2017 - This year is the 7th consecutive year that SMF has organised the Lo-Hei Luncheon. The Lunar New Year is a special and joyous time of celebration. It marks an opportunity for families to come together and strengthen their bonds. Likewise, the SMF is like a family and it was a joyous occasion with more than 250 of members showing up.

Said Mr George Huang, SMF Emeritus President, who opened the session, "This year is full of uncertainty and we are not sure of what the future brings. Hopefully, with the Government coming up with the Committee for the Future Economy will give us a better direction."

However, we cannot just depend on the Government. We must look at the situation ourselves and see what opportunities can be found. We as companies, and SMF as a federation, must keep evolving and transforming to remain relevant. This is absolutely essential to ensure our sustainability and continued survival," he added.



SMF council and members tossed their yusheng as high as they could, symbolizing the wish for an auspicious year ahead

The Lo Hei celebration 2017 would not have been a success without these generous sponsors:



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Risk Assessment: Protecting the Singapore Brand

15 February 2017 – The Chemical Watch organised a first-of-its-kind regional event, “Toxicological Risk Assessment & Product Safety Forum 2017” that was held in Singapore. With the support of SME, this was the first such forum that had cut across different industry segments, advocating the importance of safe products to consumers and the environment.

During his opening address, Mr Douglas Foo, SMF President said, “Over the years, Singapore has established global leadership positions in several key industries, such as electronics, biomedical sciences, energy & chemicals, and transport engineering. However, there is no room for complacency. Manufacturing is a globalised and highly competitive sector and we must not only continue to adapt to the disruptive technological trends that are fundamentally transforming it, but at the same time maintaining our Singapore brand - of high quality and safety standards.”

He also added that it was for such a reason which led to SMF forming the Clean & Material Protection Committee (or CAMP in short) two years ago. Taking a more proactive stance, CAMP which is chaired by Dr Khoo Keng Meng, Head of Regulatory APAC of Arch Chemicals Singapore Pte Ltd, aims to collaborate with various regulatory bodies, agencies, manufacturers and suppliers to raise



Mr Douglas Foo addressing to the more than 80 participants at the Chemical Watch's Forum

the awareness of safety standards for chemical usage within the relevant industry segments to ensure the safety of products.

Mr Vincent Le Guern, Asia Sales Manager of iPoint Ltd, “This is a useful event not just to gain new knowledge, but also a great platform to network and know more people in the industry and region, especially since I’m shuttle a lot between Thailand and Shanghai.

“Manufacturing is a globalised and highly competitive sector and we must not only continue to adapt to the disruptive technological trends that are fundamentally transforming it, but at the same time maintaining our Singapore brand - of high quality and safety standards.”

- Mr Douglas Foo, President of SMF



Sharing by Safety & Security Watch Group member, Mr Kwong Kok Chan, Deputy General Manager of PacificLight Power Pte Ltd. He oversees physical security management at PacificLight Power Station

Countering Terrorism in the Manufacturing Industry

23 February 2017 - With the increasing global threat of terrorism, coupled with the rise of new methods of attacks, the need to remain vigilant at all times is important to safeguard against acts of terrorism. However, remaining vigilant does not fall squarely on the shoulders of the national security team but also on businesses. For this reason, a manufacturing industry counter-terrorism seminar was organised by the Safety and Security Watch Group (SSWG).

Addressing the 200 participants from the manufacturing industry during his opening speech as Guest-of-Honour, Minister S Iswaran for Trade & Industry reminded them that as leaders within the manufacturing industry, they had a key role in safeguarding our businesses and protecting our way of life. He also praised the Singapore Manufacturing Federation (SMF) for its proactive support towards countering terrorism.

best workplace practices and standards, to take ownership of premises safety and security ad to proactively review emergency response plans to minimise risks,” said Minister Iswaran.

The HSSE FC was set up in 2004 to be an advocate within the industry to adopt best workplace practices and standards; to take ownership of premises safety and security; and to proactively review emergency response plans to minimise risks. Led by Mr Tay Jih-Hsin, CEO of Swee Hin Power Systems Pte Ltd, the committee serves to encourage greater sharing of best practices across all industry groups of SME.

“As the champion and voice of the manufacturing sector, SMF advocates the importance of upholding our nation's peace and stability to safeguard the well-being of our family, our members and the wider manufacturing community. Partnering with the Home Team to support SGSecure, SMF will continue to be vigilant and achieve greater corporate resilience. We cannot afford to be complacent and take the threat of any terrorism lightly,” said Mr Tay.

“I am particularly heartened to know that SMF has demonstrated industry leadership in this area of security through its Health, Safety, Security & Environment Function Committee (HSSE FC) formed more than a decade ago. A long-standing Function Committee, it has over the years maintained its strong advocacy for members to adopt

“I am particularly heartened to know that SMF has demonstrated industry leadership in this area of security through its Health, Safety, Security & Environment Function Committee (HSSE FC) formed more than a decade ago.”

- Minister Iswaran

Budget 2017:

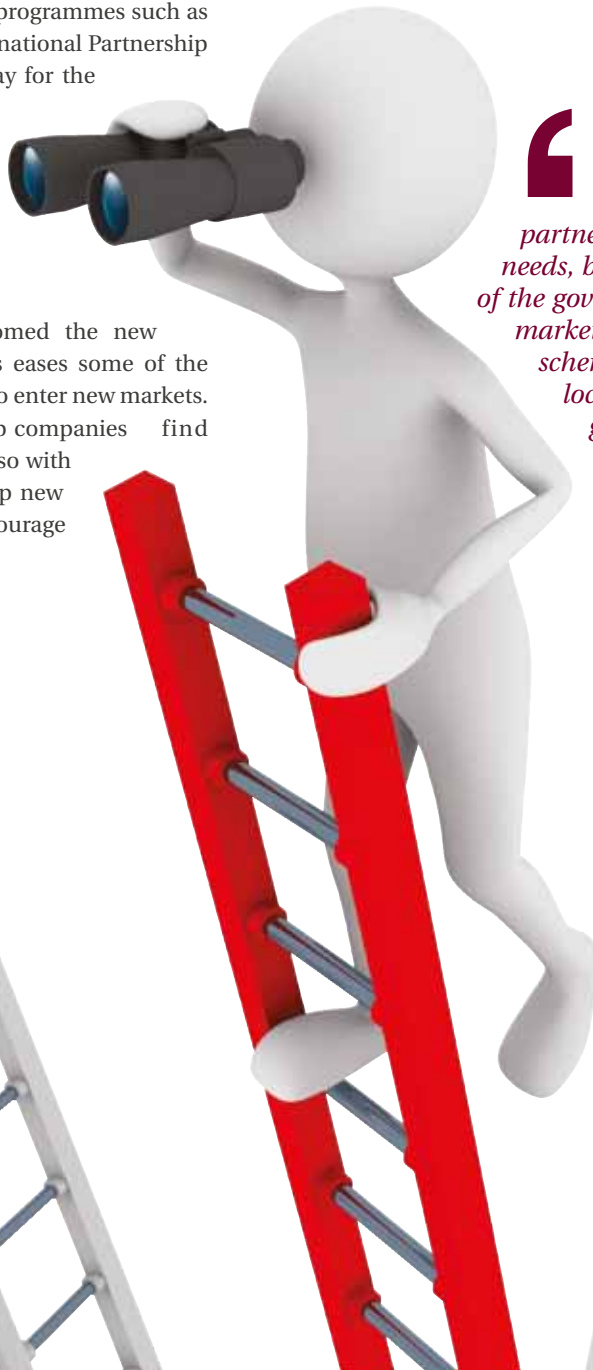
Singapore Manufacturing Companies Must Aspire to **Go Global**

20 February 2017 - Against a backdrop of economic uncertainty with political and technological disruptions across the world, members of the Singapore Manufacturing Federation (SMF) applauded the bold initiatives rolled out by the government during the Budget 2017.

This year's Budget reinforces the message to manufacturing companies, both small and large, that it is no longer business as usual. The federation believes the introduction of the new forward-looking incentives, schemes and programmes such as SME Go Digital, Tech Access and the International Partnership Fund hit the right notes in paving the way for the industry's transformation towards the future economy. SMF is also pleased to note that the government recognises the critical role that TACs play in partnering with them to support businesses in the transformation process.

SMF President, Mr Douglas Foo welcomed the new International Partnership Scheme as this eases some of the challenges for manufacturing companies to enter new markets. He said, "This new fund will not only help companies find partners who can meet their needs, but also with the support of the government to open up new markets. We hope that this scheme will encourage more local manufacturers to go global."

Other moves such as the deferment of foreign levy hikes for the marine and process sectors, the Special Employment Credit (SEC) that supports the hiring of older workers till 2019 and the raised Corporate Income Tax (CIT) rebate also received positive feedback. Overall, members viewed this year's Budget favourably with the government's long term approach in stimulating opportunities for businesses to transform and grow sustainably for the future economy.



“This new fund will not only help companies find partners who can meet their needs, but also with the support of the government to open up new markets. We hope that this scheme will encourage more local manufacturers to go global.”

- Mr Douglas Foo,
President of SMF

How Will Your Business Respond to the Recommendations from the CFE and Measures from Budget 2017?

Ahmed Yehia

Country Manager (Malaysia/Singapore/Brunei), The Coca-Cola Company

Budget 2017 is well-balanced. It addresses immediate business needs while introducing measures aligned with the CFE recommendations for the medium and longer term. In particular, its specific initiatives in innovation, internationalization and digitalization provide avenues for both Singaporeans and businesses to grow and excel.

The Coca-Cola Company remains committed to investing in Singapore, focusing on high-value added services such as new technologies, innovation and research. As the leader of the beverage industry, we will continue to put our consumers at the center of our business strategy, so as to give Singaporeans more of the drinks they know, want and love.

Neo Eng Chong

CEO/President, Makino Asia Pte Ltd

Makino Asia is very supportive of the recommendations from CFE and this is clearly reflected in the company's direction. One of CFE's strategies is building strong digital capabilities.

Makino Asia is transforming itself towards digital manufacturing through our expansion to build a future 'Smart Factory'. By leveraging on IoT and automation, we aim to increase our productivity and growth potential. This reinforces CFE's strategy of implementing ITMs, specifically for Precision Engineering Industry.

In addition, to beef up our human capital, we have also launched a Workforce Transformation Initiative targeting to upgrade our employees with the necessary skills and know how to stay relevant as the industry evolves.

Mah Chor Kiat

Executive Director, MagicForest.com.sg

“ We view Budget 2017 very positively. The budget is pro-business, with special focus towards the SME community. Budget offers much wider and comprehensive grants and schemes that encourages SMEs to embrace technology, in order, to drive productivity and cost efficiency. For us, we're currently working closely with IE Singapore to seek assistance towards expanding our market within Asia Pacific.”

Vincent Lau

Chief Technology Officer, Takatack Technologies Pte Ltd

“ For the past 2 years, we have been helping SMEs embrace digital commerce, and assisting them in the digital transformation of their businesses with the help of our concierge solution. As such, we are heartened to see that the CFE report and Budget 2017 has placed a lot more emphasis on this aspect.

This year other than providing the concierge solution, we are further helping SMEs to increase cross-border transactions with our overseas selling initiative by leveraging on our marketplace platform, Takatack.”

Esther Tay

Creative Director, Esta Pte Ltd

With the government urging all firms to plug into the digital economy, and in line with the CFE, we plan to be better prepared for the rapid changes that lie ahead for all companies by building stronger digital capabilities and seek advice on a comprehensive digital solutions package.

We hope to benefit from more funding support to defray the cost of deployment and equip our team with relevant digital skills, we believe this will also help us to access new markets overseas faster. Especially for SMEs like us, funding support in these areas would be instrumental and a big push to help us achieve these goals.

Our Government's latest Budget 2017 efforts, promoting "SMEs Go Digital Programme" is an important step towards encouraging companies like ours who are ready to embrace change and adapt to remain relevant in this digital age, but have limited resources to do so.

Larissa Tan

Marketing Manager, Stream Peak International

Singapore SMEs are fortunate that our government is willing to invest back in us with all the support entities and monetary grants. The subsidy amounts may not be enough to fund significant improvements, but at the end of the day, SMEs must be willing to help themselves and inject the necessary changes in their company. To improve and become better, risks must be taken and usually risks comes with some form of uncertainty which an SME must stomach fast to remain competitive in this VUCA world. At Stream Peak, we are striving towards this risk-taking appetite for a global growth.

Eddie Lee*Director, XDel Singapore Pte Ltd*

As an SME in the logistics industry, we are right in the epic center of innovation changes and digital transformation. The strategies adopted by CFE will provide a platform for better support in our industry and we hope to see more partnership across industries to embrace innovation.

One example is the adoption of digital tools by the Financial Institutions for their backend supply chain with their logistics partners while managing the data risks. Also, it is a delight to know the Government is rolling out support for innovation in its budget announcement which we can tap on for growth.

Brandon Lee*Country Manager, ATS Global*

“ATS Global is already progressing with most of the elements outlined in the CFE strategies. We are in the business of helping customers to transform and digitise their processes. Therefore we have to stay in the forefront of our own capabilities development by leveraging our experience and solution developments from various manufacturing excellence centres oversea.

We are in the process of setting up our own manufacturing excellence centre in Singapore and we will deepen the core capabilities of industry 4.0 transformation expertise to support regional opportunities. We are a firm believer of both local and international partnerships, and we see great opportunities to participate in the ITMs activities. So in near and mid-term, we will be looking at increasing our business activities in Singapore both organically and inorganically.”

Senthil Kumar*General Manager, Electricity Retail, iSwitch Pte Ltd*

“The Go Digital Programme would be particularly helpful for companies to build energy monitoring systems by using digital smart metering technology. This would enable iSwitch to help customers reduce consumption, change behaviour and save on costs.

The Carbon Tax is a bold initiative which will help propel Singapore into a cleaner and more modern future. While it is possible that electricity price will rise by a small amount, it will enable the government to invest this revenue into energy efficiency, modernising existing production processes and systems.

iSwitch is gaining feedback from its customers and the broader industry and it suggests that an education process is important so that the wider benefits are explained to consumers, as well as the potential for efficiency measures.”

Martin Toh*Managing Director, Elmich Pte Ltd*

“I'm glad to see that the government is taking measures to help SMEs in the areas of Digitalization and Innovation. We are looking forward towards the funding laid out by the government to scale up our operations to go globally.”

Geraldine Tan*General Manager, PacificLight Energy Pte Ltd*

At PacificLight, we respond to the competitive nature of electricity business in Singapore by constantly innovating ourselves through adoption of latest technology and out-of-box business ideas. Apart from providing training to deepen the skillsets of our workforce, we always challenge ourselves to do things, however mundane, differently.

While we set our sight to the future, we are also grappling with the immediate, but existential, challenge of rising business costs which, in our context, include the LNG terminal tariff and the soon-to-be introduced carbon tax.

We are confident that the CFE recommendations, supplemented by short-term relief on the business costs, will anchor Singapore's economy well now and into the future.

Foo May Ling*General Manager, Enviro Gas Pte Ltd*

Innovate, adapt, transform --these are drivers for many of us in Singapore. Many forward-looking companies are already in China, Myanmar and lately many for making their ways into Indonesia; tapping on the rapid industrial development with growing population of 250 million.

In our case, facing with a limited domestic market, we have always been in constant search for external market and to expand our offerings to find new revenue streams. This is in line with much of the CFE guidance and Budget measures.

We believe we can ride the challenges ahead because of the following:

- High internet accessibility
- Net savvy population
- Very well educated workforce
- Strong intellectual protection laws
- Transparency
- Strong judicial systems (law and order) and importantly a strong government (not just politicians but also a strong civil service)

SMF Members: “Manufacturing Will Continue to Have a Place in Singapore”

15 March 2017 – Manufacturing is faced with a situation where it seems like no matter how hard manufacturing companies plan for future activities, they are just not moving forward fast enough. But in spite of these challenges, it is clear that manufacturing in Singapore is here to stay for it serves a key linkage for Singapore to the global economy.

Echoing this was Mr James Wong, Chairman of SMF’s Metal, Machinery & Engineering Industry Group, “Many are questioning if the relevance of manufacturing in Singapore. And SMF has had many dialogues with government agencies like EDB, e2i, SPRING Singapore, IE Singapore, and there is only one resounding conclusion – YES! Singapore needs manufacturing to support the GDP growth and to create good jobs for Singaporeans. For this reason, we can observe how the government has been spending a lot to help our manufacturing companies pull through this trying situation.”

Mr Wong who is also the Managing Director of O.E. Manufacturing Pte Ltd was addressing the crowd of 80 members during the “SMF Members in Conversation” event organised to facilitate a dialogue with a panel of experts and entrepreneurs from different industry sectors to discuss and learn from one another on the way forward for manufacturing in Singapore. The rest on the panel comprised of Mr Gerald Leo, Director of Microsoft Singapore; Mr Hartmurt Issel, Head of APAC Equities & Credit for UBS AG; Mr Pascal Delloue,

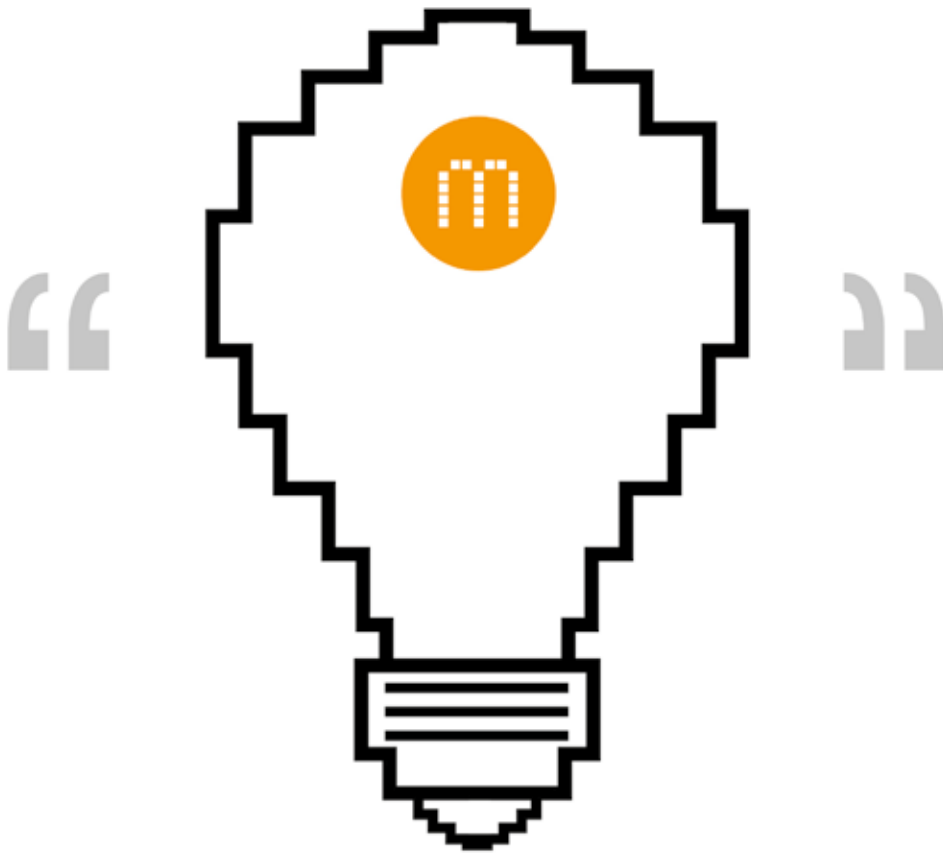
General Manager of Central-Midori Int’l Pte Ltd; Mr Tan Wang Cheow, Managing Director of Food Empire Holdings Ltd; and Dr Satish Lele, Senior Vice President Asia Pacific of Frost & Sullivan.

During the dialogue, Mr Gerald Leo opined that most manufacturing companies in Singapore were now at a crossroad of deciding on the way forward, and that begins by reviewing their business model and identifying their niche market. And that no one can help them to decide but themselves. “When you look at what the government is pushing or the adoption of technology, it is not just adopting technology but knowing what you want to do with it. If you better understand what your customers need, you are creating more value and it also gives you a competitive advantage on how you can differentiate your company from others,” he said.

One of the participating members, Mr Ng Teck Soon, Director of TranSystem FA Pte Ltd that specialises in automated engineering equipment and solutions for manufacturing shared similar sentiments and added that “manufacturing companies must have the fortitude to help themselves in order for manufacturing to remain strong and relevant for Singapore, and not to over rely on the government for assistance as this would not help in preparing for the hard knocks especially for those venturing to overseas markets even with a differentiating value.”



The panelist engaged the audience in an interactive discussion on the manufacturing trends: (L-R) Mr Gerald Leo, Director, Microsoft Singapore; Mr Hartmurt Issel, Head of APAC Equities & Credit, UBS AG; Mr Pascal Delloue, General Manager, Central-Midori Int’l Pte Ltd; Mr Tan Wang Cheow, Managing Director, Food Empire Holdings Ltd; Dr Satish Lele, Senior Vice President Asia Pacific; Frost & Sullivan; Mr James Wong, Managing Director, O.E Manufacturing Pte Ltd



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Transforming Our SMEs Into Giant Slayers

By Dr Michael Teng

Year 2016 could be described as the year of the underdogs. We saw the triumph of Brexit and Donald Trump despite polls indicating that they were the underdogs. Leicester City Football Club won the 2015-16 English Premier League, a victory described by the press as the greatest sporting upset ever. Joseph Schooling won Singapore's first ever gold in the 100 metre butterfly event, beating his childhood hero and the most decorated Olympian of all time, Michael Phelps.

In the corporate world, small and medium enterprises (SMEs) are generally perceived as underdogs compared to the corporate giants. But thanks to globalisation and the Internet, the playing field has been levelled for the SMEs and opportunities abound. However, the window of opportunity is becomingly smaller given intense competition.

According to some studies, it took 75 years for the telephone to reach a critical mass of 50 million users; 38 years for the radio; 13 years for TV; four years for the Internet; three years for the

iPod and 35 days for Angry Bird. In the past decade, the rate of adoption of new technologies has accelerated the increasing connectivity to millions globally.

This means that if an SME has a good business product or service, it can quickly reach out to the market, and cheaply too. Many previously unknown and small players such as Amazon, Paypal, Facebook, Uber and Airbnb have capitalised on innovative and disruptive technologies to gain global dominance. To ride on these opportunities and pursue sustained growth, our SMEs will need a new mindset to embrace new business models and adopt new ways of doing things.

In order to manage changes arising from technological disruptions, SMEs may wish to draw inspiration from the lessons that can be learnt from the David and Goliath story. In fact, one can take away precious gems of business wisdom from this story and these can be distilled into the following eight lessons:

Lesson 1: Changing the negative mindset

In the story, thousands of soldiers from Israel covered in fear and no one dared to fight the giant Goliath, the Philistine warrior who had been cursing and challenging Israel for 40 days. In truth, the real enemy was from within. David managed to overcome the fear of the unknown, "negative" noises and pessimism so that his resolve to fight and annihilate Goliath was unhindered. From the corporate perspective, "Goliath" is the negative mindset of some SMEs towards change and transformation.

Lesson 2: Saying 'no' to the establishment

Most of us in the corporate world dutifully follow the instructions of our bosses and established systems without demur. In this story, the brave David declined King Saul's offer of weaponry, tunic, armour and helmet as they hindered his agility. Instead, David would do it his own way. The takeaway here is clear - there may be times when following the establishment and toeing the conventional line are not the wisest moves. Stand firm on your conviction if you think your ideas will better serve the corporate interest.

Lesson 3: Using innovative tools

David had in his possession a slingshot and five stones. Goliath did not realise the stunningly fatal power that could be unleashed by this deceptively simple tool. Likewise, the big players in hospitality and taxi transportation were caught off-guard by the game-changing capabilities of Airbnb and Uber with their simple app-based business models.

Lesson 4: Capitalising on productivity

Productivity does not necessarily entail the use of clunky or seemingly impressive tools. David's slingshot was a tool of high productivity as he had adeptly used it to protect his sheep from the lions and bears. With practice, he became very good at using the slingshot. Similarly, SMEs need to harness the power of relevant and state-of-the-art tools and methods that can raise their productivity level.

Lesson 5: Finding the market niche

The savvy David was able to identify a weakness in the arrogant Goliath, who did not bother to shield his forehead. Thus, David was able to hit this unprotected

“*To ride on these opportunities and pursue sustained growth, our SMEs will need a new mindset to embrace new business models and adopt new ways of doing things.*”

- Dr Michael Teng



spot. In the same way, corporate giants tend to be complacent, relying on past achievements and neglecting to correct their weaknesses. Smaller players which are nimble and astute enough in identifying niche markets, gaps and weaknesses of the corporate giants will be better positioned to expand their business footprints.

Lesson 6: Acting swiftly

David marched quickly into the battlefield and struck Goliath's forehead with a stone from his slingshot. After knocking out Goliath, David swiftly ran towards him and took Goliath's sword to cut off the latter's head. Similarly, in the business world, speed and decisiveness are of the essence in making inroads into new market niches or establishing market leadership.

Lesson 7: Dying by its old business model and culture

Goliath died by his own sword. Likewise, the demise of corporate Goliaths such as Kodak, Borders and Nokia could be attributed to their obsolete corporate cultures and business models.

Lesson 8: Collaborating with others

After Goliath was beheaded by David, the Israelites were able to follow through to pursue the enemy and gained victory. David could not have defeated the rest of Goliath's army on his own. He needed his fellow Israelites to finish up the job.

Similarly, our SMEs need to internationalise because our domestic market is too small. They should consider teaming up with other SMEs and hunt as a pack. This is because in the international arena, our SMEs will be competing against global giants and in unfamiliar grounds.

Clearly, the simple David and Goliath story offers quite a few business-related insights for Singapore's SMEs to overcome their inertia in adopting new initiatives to transform and innovate their business models.

They need to identify and move swiftly into new market niches in an increasingly competitive and complex marketplace. Switching to the use of appropriate technology such as automation and digitisation will enable them to increase their productivity. They also need to collaborate with one another to reach global markets.

*Article contributed by Dr Michael Teng, CEO of Singapore Innovation & Productivity Institute (SiPi).
This article first appeared in The Business Times on 13 Dec 2016.*

Singapore, Indonesia Marks 50 Years of Bilateral Relations

17 January 2017 – Singapore and Indonesia started their celebrations of 50 years of bilateral relations today with the unveiling of a commemorative pin to celebrate the 50th anniversary during the ‘Indonesia-Singapore Business Partnerships 50 years and Beyond’ event. This was co-organised by the Singapore Manufacturing Federation (SMF) and the Embassy of Indonesia the Republic of Indonesia in Singapore with the support of the Indonesia Investment Coordinating Board (BKPM) and KADIN Indonesia held at the Mandarin Orchard Hotel.

Speaking at the event as the Guest-of-Honour to a crowd of 250 guests of government officials and business leaders from Indonesia and Singapore, Mr Lim Hng Kiang, Minister for the Ministry of Trade & Industry (Trade) said that Indonesia and Singapore had enjoyed an enduring bilateral relationship which has grown from strength to strength with robust economic ties being a hallmark of both countries.

In 2015, bilateral trade between Singapore and Indonesia reached more than S\$58.7 billion, making Indonesia Singapore’s fourth largest trading partner while Singapore was Indonesia’s third largest trading partner. FDI from Singapore was US\$5.9 billion (S\$8.3 billion). In 2016, Singapore companies invested almost US\$7.1 billion in Indonesia for the first nine months, doubling that for the same period in 2015. This maintains



Vice Minister of Foreign Affairs for Indonesia AM Fachir; Trade and Industry Minister Lim Hng Kiang; Ngurah Swajaya, Indonesian ambassador to Singapore and SMF president Douglas Foo unveiling the commemorative pin for the 50th anniversary of Singapore-Indonesia diplomatic relations

Singapore’s position as Indonesia’s largest foreign investor. Singapore and Indonesia are also among each other’s top sources of tourist arrivals.

According to a recent members’ survey of SMF, Indonesia emerged the top choice overseas market to explore in 2017. Hence, there will be 8-9 business mission trips to Indonesia lined up this year to visit industrial parks and to connect Singapore companies to potential partners and clients this year.

Mr Douglas Foo, SMF President said, “Given the foundational framework already established by both governments from Singapore and Indonesia with the forging of strong diplomatic ties, SMF is all geared up to further build on this robust structure to further deepen economic partnerships. SMF is well-positioned to drive industry-level transformation and lead the development of industry wide solutions for the common challenges faced by our businesses with the support from our strategic partners such as IE Singapore, BKPM and KADIN Indonesia.

“SMF is well-positioned to drive industry-level transformation and lead the development of industry wide solutions for the common challenges faced by our businesses with the support from our strategic partners such as IE Singapore, BKPM and KADIN Indonesia.”

- Mr Douglas Foo, President of SMF

The Gateway to Business Opportunities in Africa for Manufacturing

15 February – Against the backdrop of a sluggish global economy, Singapore manufacturers were urged to look to the emerging market of Africa for business opportunities. This was the message brought across during a briefing session of the inaugural Africa-ASEAN Business Expo (AABE) trade fair in Johannesburg, South Africa in November this year.

AABE, a strategic platform linking businesses between the African Union and ASEAN, will see plenty of business possibilities for manufacturing companies in key targeted

sectors such as education, environment, food & beverage, healthcare. Participants were encouraged to consider the potential of the African region as while attractive, remains a relatively untapped market.

Mr Robert MacPherson, Adjunct Researcher, NTU-SBF Centre for African Studies, shared that Singapore is one of the top countries within ASEAN with well-diversified products and good trade flows to Africa. Therefore, Singapore businesses can advantage of this to partner with African businesses that have plans to expand into ASEAN region and vice versa.

“Today’s session clearly pointed out that healthcare is one of the sectors in demand. We are looking for opportunities in the African market, and how we can provide a business model or products in line with what is in demand. This is really an up and coming continent and we still have to do more research on their economy needs,” said a participant in the business of healthcare products.

ABBE 2017 will take place from 6-8 November 2017 in Johannesburg, South Africa.

Further enquires on the exhibition may be directed to Mr Gabriel Tan at +65 6826 3085 or email at gabriel.tan@smfederation.org.sg



Mr Steven Tan, Steven Tan, General Manager, CEMS (L), and Mr Robert MacPherson, Adjunct Researcher, NTU-SBF Centre for African Studies addressed questions by members of the audience on the African business landscape

Visitors to SMF

4 January 2017 – Ambassador of the Republic of Turkey

SMF President, Mr Douglas Foo (far right) received the Ambassador of the Republic of Turkey, His Excellency Murat Lutem (second from right). Commercial Counsellor, Mr Hürol Karli, stands on the left



19 January 2017 – Ambassador of Mongolia to Singapore

His Excellency Mr Lkhagvadorj George Tumur, Ambassador Extraordinary and Plenipotentiary of Mongolia to Singapore (2nd from right), paid a courtesy call to SMF

14 February 2017 – Ambassador of Israel to Singapore

Ambassador of Israel to Singapore - Her Excellency Yael Shendal Rubinstein (middle) made a courtesy visit to SMF. She was welcomed by SMF President, Mr Douglas Foo, and SMF Vice President, Dr Ahmad Magad (extreme right)





24 February 2017 – Ambassador of the Federal Democratic Republic of Ethiopia

Ambassador of the Federal Democratic Republic of Ethiopia, His Excellency Arega Hailu Teffera, was welcomed by SMF Emeritus President, Mr George Huang

1 March 2017 – Ambassador of the Republic of Cuba to Singapore

Ambassador of the Republic of Cuba to Singapore - His Excellency Fredesman Turro Gonzalez was received by SMF President Mr Douglas Foo and Chairman of the SMF Global Business Groups Function Committee, Mr Saw Ken Whye



Other courtesy calls by ambassadors and VIP visits to SMF from January 2017 – March 2017 include:

- 05 January 2017 Visit by Indian High Commissioner, His Excellency Jawed Ashraf
- 10 January 2017 Visit by Hokkaido Vice Governor, Mr Tsuji Yasuhiro
- 11 January 2017 Visit by Chile Ambassador, His Excellency James Sinclair Manley
- 11 January 2017 Visit by Thai Minister Counsellor of Thai Embassy Ms Thitinuntana Tonsrisakul
- 12 January 2017 Visit by Canada High Commissioner, Her Excellency Nancy Lynn McDonald
- 12 January 2017 Courtesy Call by New Zealand High Commissioner His Excellency, Dr Jonathan Austin
- 19 January 2017 Visit by Japan External Trade Organisation (JETRO), Ms Junko Isshi, Managing Director of JETRO Singapore
- 13 February 2017 Courtesy call by Ambassador of Germany, His Excellency Dr Michael Witter
- 14 February 2017 Visit by Israeli Ambassador, Her Excellency Yael Shendal Rubinstein
- 09 March 2017 Visit by South Africa Western Cape Premier, The Honourable Ms Helen Zille

Outgoing visits by SMF

- 03 March 2017 SMF President, Mr Douglas Foo, visited to Deputy Minister of Vietnam Ministry of Planning and Investments, His Excellency Nguyen Van Trung.
- 4 – 5 March 2017 Visit by SMF President, Mr Douglas Foo, to Thua Thien Hue province, Vietnam. He was received by the Deputy Chairman of the People's Committee of the Thua Thien Hue province, His Excellency Nguyen Van Phuong and various senior officials of the province.

EEN: A Good Example of Building Partnerships for Growth and Innovation by SMF

9 February 2017 – In one of the five recommendations made by the Committee on the Future Economy (CFE) to keep powering growth and innovation in the Singapore economy through partnerships is for trade associations and chambers (TACs) and unions to take on a greater role in leading initiatives to lift their industries and support their member companies to scale up and venture abroad.

Collaboration through EEN Singapore

Co-chairman of the CFE, Mr Heng Swee Keat who is also Singapore's Finance Minister singled out Singapore Manufacturing Federation (SMF) as a good example. In collaboration with the Enterprise Europe Network (EEN), IE Singapore and Intellectual Property Intermediary, SMF formed the EEN Singapore Centre, which facilitates Singapore companies' access to technological know-how, intellectual property (IP) and partnership opportunities within Europe.

"Indeed, our TACs must play a leadership role, to galvanise companies to seize opportunities, and embark on the challenging but fulfilling journey of transformation," said Mr Heng, "In this environment of rapid change, when individual companies may be uncertain about how to proceed, or how best to tap on available Government support, this is a great service that TACs can perform for their members."

“ *Indeed, our TACs must play a leadership role, to galvanise companies to seize opportunities, and embark on the challenging but fulfilling journey of transformation.* **”**

- Mr Heng Swee Keat, Co-chairman of CFE and Finance Minister

“ *My company has benefited from the various activities by SMF/EEN such as seminars, courses and networking sessions.* **”**

- Mr Daniel Chan, Chairman of IPS Group

Tapping on the network to Europe

SMF Member, IPS Group Pte Ltd had registered with EEN Singapore to explore possible opportunities by tapping on its network with Europe. As a group of companies manufacturing and distributing Asphalt and Concrete Plants, IPS Group has partnered with Lintec GmbH & Co. KG from Germany by setting up IPS-LINTEC Group Pte Ltd with IPS Group acquiring the IP rights and products of Lintec GmbH & Co as their master distributor of Lintec Asphalt Mixing Plant in Asia Pacific.

Mr Daniel Chan, Chairman of IPS Group said, "My company has benefited from the various activities by SMF/EEN such as seminars, courses and networking sessions. Having a better understanding, we decided to pursue strategic alternatives to create value for the business which resulted in us acquiring the intellectual property rights of the products from our German partner - Lintec GmbH & Co. KG. SMF has also helped us to identify new opportunities in several countries which we have successfully sold Concrete Batching Plants there".



About EEN Singapore:

The Enterprise Europe Network (EEN) Singapore is a Consortium comprising Singapore Manufacturing Federation (SMF), International Enterprise (IE) Singapore and Intellectual Property Intermediary (IPI) Singapore formed in June 2015. It is a national initiative looking to promote business, technology and research collaborations between Singapore and European companies through business matchings.

For more information, please visit our website: our website at www.een-singapore.sg



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Enhancing our *Manufacturing SMEs'* Competitiveness

It is no secret that today, our manufacturing companies are pitting against the high cost of labour and the shortage of manpower to compete and grow sustainably. Apart from the moderation of foreign manpower, manpower growth declined significantly because of the ageing of the local workforce and lower birth rates.

In the next 10 years, we can expect a vastly different economic and employment landscape. If manufacturing continues to be labour intensive, manpower would become the bottleneck of our growth. Then we can expect low economic growth of 1% to 2% to become the new norm for Singapore in the future.

Taking the Lean Step

Megapac Manufacturing Pte Ltd, a packaging manufacturer in Singapore was losing its competitive edge with the high cost of doing business in Singapore. The situation was compounded by its reliance on its old machinery that was low in productivity and further exacerbated with the lack of manpower.

Through the SME Centre@SMF, Megapac Manufacturing learnt about the Capability Development Grant (CDG) by SPRING. This grant is a financial assistance programme designed to help SMEs build their capabilities by defraying up to 70% of qualifying projects in the areas of increasing productivity, process improvement, product development and market access.

“We were trying to understand how to improve and go further with the business. It was a dilemma to choose whether or not to invest in our technological capabilities because of the market uncertainty,” said Mr Edwin Tay, Managing Director of Megapac Manufacturing, “but with the better understanding of what innovation is through the Business Model Innovation (BMI) Masterclass of SMF’s Singapore Innovation & Productivity Institute (SiPi) and financial assistance from SPRING, we decided to take a step to transform the business.”



One of Megapac's staff manually arranging the packaging for cutting on an old machine



Mr Edwin Tay, Managing Director of Megapac Manufacturing standing proud with his latest investment of an automatic blade bending machine with much help from SPRING

Mr Tay is expecting the upgrading of Megapac Manufacturing's machinery to boost productivity significantly. With lesser manpower required to operate the machines (from six to two staff), he is able to deploy the remaining manpower to other areas of his business in enhancing the company's capabilities. He also estimates that he will save about \$250,000 by eliminating wastage of his raw materials with the upgrade, resulting in the company to be more cost-competitive.

Getting Future Ready

Last year, SPRING has supported some 16,300 enterprises with projects to improve their business capabilities through the Capability Development Grant (CDG) and Innovation & Capability Voucher (ICV). Majority of the projects supported were in the areas of productivity improvement and technology innovation.

The 16,300 enterprises embarked on some 16,700 projects of which 2,400 were supported through CDG. This is almost twice the number of projects supported through CDG in 2015 and is the highest number of CDG projects supported over the last five years. When fully implemented, the projects from these companies are expected to create \$7.8 billion in value added to the economy and some 21,400 skilled jobs.

“ *With the better understanding of what innovation is through the Business Model Innovation (BMI) Masterclass of SMF's Singapore Innovation & Productivity Institute (SiPi) and financial assistance from SPRING, we decided to take a step to transform the business.”*

- Mr Edwin Tay, Managing Director of Megapac Manufacturing

Chief Executive of SPRING, Mr Poon Hong Yuen, said, “The success of local enterprises is critical to Singapore's economy. Together with our partners, SPRING is committed to supporting enterprises to grow and to upgrade their capabilities.”

Leveraging on its partnership with SMF, SME Centre@SMF and our two satellite centres, have reached more than 10,000 SMEs through advisory sessions over the past three years. And SiPi has implemented more than 100 productivity projects and engaged over 4,000 manufacturing SMEs since 2012. To learn more about CDG and other available assistance, please make an appointment with the business advisors of SME Centre@SMF at www.smecentre-smf.sg/.

SPMCC Launches Project-Matching for PMCs and SMEs



Mr Lim Poh Guan, General Manager of SPMCC explaining the process of registering on PMC ConneXion to PMCs during the Town Hall Meeting

18 January 2016 – The Singapore PMC Certification (SPMCC) of the Singapore Manufacturing Federation (SMF) announced the launch of a new project matching portal – **PMC ConneXion** – that serves as an online platform for Practising Management Consultants (PMCs) to submit proposals for consultancy projects, linking companies searching for certified management consultants and PMCs.

Riding on the digital wave, the aim of this portal is to facilitate a direct matching of certified PMCs with business demands. The portal automates project match with PMCs' area of expertise based on the project's requirement submitted online by companies. The companies will then be able to shortlist a maximum of five PMCs before awarding their project to the selected PMC.

This portal not only serves to add value to our SMEs in avoiding the hassle of searching for qualified and suitable consultants when a need arises, but also provides assurance and access to a network of certified management consultants and PMCs. To date, there are close to 200 PMCs who are specialised in the areas of accountancy, human resource, branding and strategic business planning that are registered in the portal.

Mr Lim Poh Guan, General Manager of SPMCC, said, "PMC ConneXion creates an effective way for PMCs to reach out to companies and international clients. Companies will also have some level of assurance relying on this portal to search for qualified, reliable and competent PMCs. Although we can still approach businesses in the traditional way, all industries will eventually adopt technology, with new possibilities for collaboration and speed of action."

The PMC ConneXion advantage:

- **International Business Market**
The portal does away with international business restrictions and allows more connections to PMCs.
- **Automated Matching Process**
The portal highlights PMCs' area of expertise that matches a project's requirement through an automated and non-biased matching process.
- **Freedom of communication**
PMCs manage their own communication and interaction experience. As parties' contacts are not visible, PMCs need not respond if they find a project is unsuitable for them. Companies may decide who to work with as well.
- **Confidentiality**
Contents of proposals are confidential. Users do not know the identities of those shortlisted and selected for a project.

One of the participants, Mr Florian Luthi, Business Development Director of Brand Courage said, "Currently, government funded projects make up 30 per cent of our annual revenue. Therefore, we would definitely welcome this initiative as it is another avenue for more business opportunities. However, we will have to see how much more opportunities will come through this portal."

Licensed by the Singapore Business Advisors and Consultants Council (SBACC) on 1 June 2016, SPMCC administers and manages the PMC Certification in Singapore. As of this year January, only SPRING-Recognised Certification for Management Consultants, such as the PMC certification, is a mandatory requirement for consultancy work in Innovation and Capability Voucher (ICV) and Capability Development Grant (CDG).

About Singapore PMC Certification Pte Ltd (SPMCC)

SPMCC is a leading certification body for management consultants in Singapore. It was set up in 2016 to promote and advance the professionalism of management consulting by having in place internationally recognised and valued standards of performance and conduct for certified practising management consultants.

For more information, please visit <https://www.pmccertification.sg/>

PMC ConneXion is accessible to all companies through the SPMCC website: <https://www.pmccertification.sg/pmcc-connexion>

GS1 Singapore SME Business Forum 2017: Leveraging on the '888' Prefixed Barcode



1 March 2017 – Singapore is renowned internationally for her strict safety standards and distinguished product quality when it comes to product manufacturing. The “888” prefixed barcode is a Singapore hallmark that helps companies to facilitate operations, boost brand value and consumer confidence, supporting Singapore companies to embark on their supply chain journey.

This was the insights GS1 Singapore shared with the participants of the SME Business Forum 2017. Organised in partnership with the Employment and Employability Institute (e2i), the forum was held at the Devan Nair Institute of Employment and Employability.

More than 80 participants from 43 different organisations attended the forum, keen on learning how to leverage on the GS1 Standards & Systems to achieve an integrated supply chain that can help drive remarkable changes in

“*I can now understand how barcodes have the potential to be used for marketing as well.*”

- Mr Kunako Takakura, Marketing Manager of Nissin Foods Singapore



Speakers from left: Mr Gennady Volchek, Founder & CEO, Authenticateit Pty Ltd; Ms Kerry Neo, Sales Team Leader Singapore, Videojet Technologies (S) Pte Ltd; Mr Leister Fong, Senior Account Manager, Euromonitor International; Mr Liew Wai Leong, CEO, GS1 Singapore Limited; Mr Alfred Au, Regional Director, Business Development (Asia Pacific), VIPColor Technologies Pte Ltd; Mr Chris Milliken, CEO & Founder, PengWine International Pte Ltd

their business processes and services; driving cost reduction; interoperability and efficiency in the long run.

The forum also featured exhibitors from Authenticateit Pte Ltd, Videojet Technologies (S) Pte Ltd and VIPColor Technologies Pte Ltd, bringing with them technical solutions and services that are specially catered to help companies improve their business processes and services.

The forum featured two exciting sections to its programme, with the first section focusing on “**Understanding the Market Sentiment & Changing Customer Landscape**” and the second section focusing on “**Solutions Sharing**”. Each section featured 3 speakers, bringing their own individual valuable knowledge and different perspectives of the barcode in the local consumer market. All these were enough to provide Mr Kunako Takakura, Marketing Manager from Nissin Foods Singapore on how

barcodes are more than just numbers on a product. “I can now understand how barcodes have the potential to be used for marketing as well.” he said.

Representatives from Lam Soon Singapore Pte Ltd, NTUC Fairprice Co-Operative, Owl International Pte Ltd and Procter & Gamble Singapore Pte Ltd also left the forum with new acquired knowledge on how barcodes can be more efficiently used to achieve a more cost-efficient yet robust supply chain.



Participants at the forum listening to insights shared by the speakers

Raising of Industry Standards with SMF-SDO

SMF-SDO regularly conducts Standards Adoption Workshops for organisations interested in standards implementation. The last quarter, SDO conducted five workshops for various standards adoption towards adding value to our economy.

15 December 2016

- Manufacturing Standards Committee:

*Standards Adoption Workshop on TR46 : 2016 Last mile Delivery
– e-Commerce Data*



20 January 2017

- General Engineering & Safety Standards Committee:

*Standard Adoption Workshop on Singapore Standards on Safe Use
of Lifting Equipment*

10 February 2017

- Biomedical Standards Committee:

*Standards Adoption Workshop on Impact of ISO 13485:2016 on
medical device quality management systems*



22 February 2017

- The General Engineering & Safety Standards Committee:

*Standards Adoption Workshop on Singapore Standards related to
Lifting Machines and Gear*

28 February 2017

- Manufacturing Standards Committee:

*Standards Adoption Workshop on Robotics Standards –
Supporting Safe and effective Adoption of robotics solutions*



What participants learnt at our workshops?

Discover how to transit smoothly to ISO 13485:2016 during the 3 year transition period for compliance

10 February 2017 - The ISO 13485 is regulatory requirement for the manufacturing of medical devices and in-vitro diagnostic devices in many countries including Singapore. This International Standard provides the essential quality management system framework to ensure the consistency in design, product development, manufacturing processes. The workshop enabled manufacturers, practitioners, regulators prepare for the transition from ISO 13485:2003 to ISO 13485:2016 for compliance by March 2019.





Standards Adoption Workshop on Robotics Standards – Supporting Safe and effective Adoption of robotics solutions in your organisation

28 February 2017 - With the growing reliance on robotics, risk assessment methods and ways to mitigate hazards when deploying industrial robots and industrial robot systems are helpful. The introduction of safety requirements for collaborative industrial robot systems and international robotic standards was also covered.

Standards covered included ISO 10218-1:2011 (Robots and robotic devices — Safety requirements for industrial robots — Part 1: Robots), ISO 10218-2:2011 (Robots and robotic devices — Safety requirements for industrial robots — Part 2: Robot systems and integration) and lastly, ISO/TS 15066:2016 (Robots and robotic — Collaborative Robots).



An engaging dialogue session between the panellists and workshop participants on robotic safety and its implementation

Sign up for up and coming Standards Adoption Workshops (SAW) commencing in April 2017.

Refer to our website at <http://smf-sdo.org.sg/> for more information and registration enquiries.



No.	Title / Descriptions	Date
1	Standards Adoption Workshop TR 46 : 2016 workshop Last mile delivery – eCommerce data interchange	19 April 2017
2	Standards Adoption Workshop on TR 49: 2016 Cold chain management of frozen fish and seafood (part 1: introduction on clauses)	20 April 2017
3	Standards Adoption Workshop Understanding ISO 13485: 2016 Clause by Clause	20 April 2017
4	Standards Adoption Workshop Being Audit Ready for ISO 13485: 2016	21 April 2017
5	Standards Adoption Workshop TR 49: 2016 Cold chain management of frozen fish and seafood (part 2: audit and food safety documentation)	21 April 2017
6	Standards Adoption Workshop on Singapore Standards related to Lifting Machines and Gear	27 April 2017
7	Standards Adoption Workshop on Robotics standards - supporting safe and effective adoption of robotics solutions in your organisation	28 April 2017
8	Standards Adoption Workshop on SS 610: 2016 Guidelines for cleaning performance of retail food & beverage premises	18 May 2017
9	Standards Adoption Workshop on Singapore Standards related to Work At Heights	26 May 2017

3D PRINTING: The Possibilities are Endless



3D printing process and applications

traditional subtractive modes of manufacturing. It involves building an object by adding layer upon layer of material according to a design from a digital file until the product is completed.

With huge projected growth and numerous unexplored possibilities in terms of product offerings and business models, 3D printing is the next step in the evolution of manufacturing.

3D printing, also known as layered or additive manufacturing (AM), is a new process that is quite different from

First developed in the 1980s, 3D printing capabilities have steadily expanded and have become more cost efficient. Now, companies are discovering that it has the power to revolutionise the manufacturing process, streamline distribution channels and widen their catalogue of product offerings – and many are taking advantage of it to gain an edge.

Relevance of 3D Printing

Global companies such as Adidas, Lamborghini and Unilever have utilised 3D printing to shorten prototyping times, simplify and mechanise production or adopt new materials whose properties satisfy a range of needs. Local companies have also jumped on the bandwagon.

One example is Spare Parts 3D, a local start-up who supports the digitalisation of spare parts inventory and enables on-demand & distributed production using 3D printing. Another example is Nanosun, an NTU spin-off which uses AM to develop microfiltration membranes that enable the supply of clean water for emerging economies.

3D printing is gaining traction. In 2016, Wohlers Associates pegged the global 3D printing market to be worth US\$7.3 billion, and estimates growth to triple by 2020 to US\$21.2 billion.

“It is important to ensure that our manufacturing sector is able to ride on advanced technologies to raise productivity, create new products and business models. Under the Research, Innovation and Enterprise 2020 plan (RIE 2020), we have set aside S\$3.2 billion for Advanced Manufacturing and Engineering, to develop technological capabilities for our manufacturing and engineering sectors. This will include investing in cross-cutting technology areas such as Additive Manufacturing, digital manufacturing, robotics and automation as well as advanced materials” remarked Mr Loh Khum Yean,

Permanent Secretary for Trade and Industry (Industry), at the launch ceremony of the NAMIC AM Summit Series held on 23 Jan 2017 at Pan Pacific.

Challenges to adoption

However, adoption is not without its risks. 3D printers are expensive machines, and the return on investment is uncertain. In addition, given the newness and complexity of the technology, companies may have trouble fully understanding it and all its implications, making it difficult to develop a clear go-to-market strategy that will translate to a competitive advantage.

These challenges – and the huge potential gains for Singapore’s manufacturing industry – have been recognised by the Singapore government. To help companies mitigate the financial risks and gather contacts and information on 3D printing research, the National Additive Manufacturing Innovation Cluster (NAMIC) was formed.

“Additive manufacturing is a game-changing technology that will transform and inspire new products and solutions in a wide spectrum of industries in the cyber-physical age,” said Dr Ho Chew Sing, Managing Director of NAMIC, “New paradigms in how we create and make new products - inventing new material compositions, structure and properties, are all now possible with AM and 3D printing technologies. It has evolved from a rapid prototyping and maker-space fed movement, and is now one of the key technology enablers for Industry 4.0 - the next digital industrial age.”

The future for 3D Printing

In terms of funding, NAMIC matches company resources dollar for dollar, up to a total project value of half a million dollars and more. It also offers the AM Testing and Certification Guidance Programme (TCP), a course designed in collaboration with UL to address go-to-market strategy concerns and give companies industry-specific guidance related to their target segment. If a company decides that adopting 3D printing is a viable option, NAMIC also offers testing services vouchers of up to S\$4000 for use with established companies.

NAMIC also connects businesses with industry partners and each other. Together with the Singapore Manufacturing Federation (SMF), it has established one of the largest industry partnership programme (IPP), consisting of more than 3000 SMEs.

NAMIC establishes joint funding with industry partners either through IPP or customised engagements. The figure illustrates an example of an industry user group model, where an industrial problem is addressed by a group of companies together with NAMIC. NAMIC will match dollar for dollar up to the maximum of \$250,000, with combined funding \$500,000 and beyond in total.



NAMIC's Partners and Stakeholders



NAMIC Industry Partnership Programme (IPP)

This is a feature article contributed by the National Additive Manufacturing Innovation Cluster (NAMIC).

Case Study: Adding to Singapore's Manufacturing Prowess

Working with NAMIC, ST Kinetics aims to boost Singapore's adoption of Additive Manufacturing

Testing & Certification Guidance Programme (TCP)

To address common misconceptions about additive manufacturing, NAMIC has launched the AM Testing and Certification Guidance Programme (TCP), co-developed with UL. TCP is the first industry specific programme tailored to address go-to-market strategies of AM products. Through this course, companies will also receive specific guidance relating to their respective target segments. Eligible companies will also be taught how to qualify for testing services vouchers worth up to \$4,000.

Industry Partnership Programme (IPP)

NAMIC and the Singapore Manufacturing Federation have also partnered to launch the country's largest industry partnership programme (IPP), with more than 3,000 members. It is anticipated that SMF members working with NAMIC through the AM Industry Working Group will be able to advance AM adoption and unlock business value by forming relevant partnerships and developing compelling AM related IP.

ST Kinetics & Additive Manufacturing

ST Kinetics, through its manufacturing and engineering turn-key services arm, ST Kinetics Integrated Engineering Pte Ltd, specialises in precision machining, heat treatment, chemical plating, surface coating, cold spray, welding, precision fabrication, NDT testing and manufacturing programme management services. ST Kinetics facilities and services are certified to industrial standards such as NADCAP, AS9100 and ISO9001. The company extensively employs advanced machinery as well as testing and QC equipment to provide high quality engineering and manufacturing services



for a diverse range of clients from the public and private sectors. Their business areas include aviation maintenance, repair, and operations (MRO), defence, original equipment manufacturer (OEM) supply, and oil and gas.

ST Kinetics began investigating additive engineering using plastic printers for product prototyping in 2011. With the experience gained from this effort, it plans to move beyond prototype fabrication, and has been partnering with sister company ST Dynamics to perfect direct metal laser sintering (DMLS) techniques using the EOS M280 printer system since 2015.

One example would be a prototype brake pedal for a ST Kinetics vehicle product. Using DMLS 3D printing, the brake pedal can be made in one single metal piece instead of being welded from several sub-components, hence reducing total part weight while improving part strength in the process. Going forward, the objective is to incorporate more additive-manufactured parts like this pedal into products.

Contract Manufacturing Services

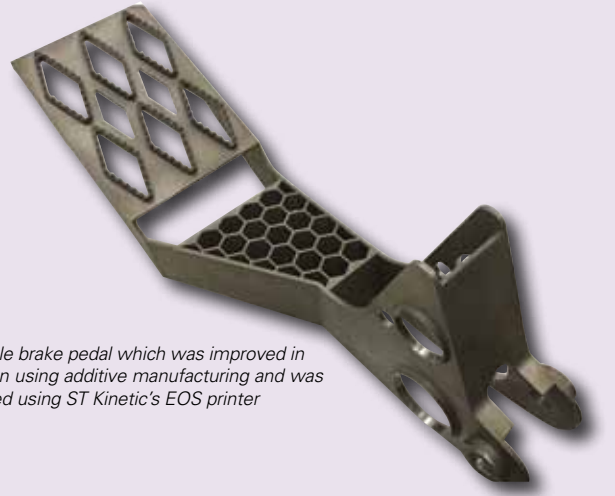
ST Kinetics believes that additive manufacturing can be exploited to enhance existing manufacturing services to serve both internal and external customers. The company has already trained around 100 engineers to perform basic additive manufacturing to promote the incorporation of additive manufacturing right from the product design stage. ST Kinetics is open to working with the industry on additive manufacturing projects (design, manufacture & testing) and is offering contract manufacturing services using additive manufacturing as well as traditional manufacturing processes.

Quality Assurance

Because additive manufacturing is so different from traditional manufacturing processes – final parts are made by re-constituting from recycled raw materials to achieve the final form, there are often uncertainties in the material and mechanical properties of the final parts. One of the major barriers to implementation of additive-manufactured parts is the quality assessment (QA), quality control (QC) and testing of the additive manufacturing process and completed parts. Through the TCP and working with UL and NAMIC, ST Kinetics hopes to develop QA and QC tests specifically to address these uncertainties limiting the application of additive-manufactured parts.

Being a relatively new technology, there are some reservations and uncertainties about the personnel safety and environmental hazard aspects with regards to additive manufacturing. ST Kinetics has been working with UL on hazard and risk identification and the conduct of infrastructural and process

safety assessments specifically for additive manufacturing. This will also include the design of 3D printing facilities, proper storage and handling procedures for metal powders used in metal 3D printing.



Vehicle brake pedal which was improved in design using additive manufacturing and was printed using ST Kinetic's EOS printer



You've invested in AM technology. It's time to invest in AM training.

UL, in partnership with the **National Additive Manufacturing Innovation Cluster (NAMIC)**, introduces AM training specifically designed for Singapore-based companies.

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Photo Gallery

Event : Packaging Council of Singapore (PCS) Lo Hei Luncheon

Date : 18 January 2017

Venue : Copthorne King's Hotel



Mr Sunny Koh, SMF Deputy President, and Ms Betty Tan, Chairperson of PCS were present to greet all members



Approximately 40 PCS members turned up for the Lo Hei Luncheon



Ms Tania Snioch, Director (Healthcare), GS1 Global Office presenting at the Medical Device Seminar



Ms Snioch with Singapore Manufacturing Federation (SMF) and Health Sciences Authority (HSA)

Event : Medical Device Seminar – Global Healthcare Landscape for GS1 standards in Labelling & 3rd ASEAN Medical Device Committee Updates

Date : 9 February 2017

By : Medical Technology Industry Group (MTIG), SMF



SMF organised the Singapore pavilion in BeautyAsia 2017, drawing professionals from the beauty, spa and health industries

Event : BeautyAsia 2017

Date : 20-22 February 2017

By : Global Business Groups (GBG), SMF



Interested participants were allowed to sample exhibitors' products on the spot

Event : Visit to Food Innovation & Resource Centre (FIRC)

Date : 28 February 2017

Venue : Singapore Polytechnic

By : Food & Beverage Industry Group (F&B IG) and Automation Technology Industry Group (AT IG)



The session was opened by Mr Sunny Koh, SMF Deputy President



Over 50 members from the F&B and Automation Technology Industry Group were brought on a site tour of FIRC where they were shown laboratories and test kitchens of FIRC in Singapore Poly



GS1 Singapore was a partner of Last Mile Fulfillment 2017, which brought together retailers, eCommerce, Logistics and Parcel companies together to explore business collaboration opportunities

Event : Last Mile Fulfillment Asia 2017

Date : 1 – 3 March 2017

Venue : Singapore Expo

By : Global Business Groups (GBG), SMF



19 companies exhibited under Singapore pavilion, the largest pavilion in the trade show

Event : Singapore Budget Seminar

Date : 3 March 2017

Venue : Mandarin Orchard Hotel

Panelist for the dialogues session (from left) : Mr Ernie Koh, Immediate Past President of Singapore Furniture Industries Council (SFIC); Ms Chew Mok Lee, Assistant Chief Executive of SPRING Singapore; Dr Michael Teng, Assistant Secretary-General of SMF; Dr Chua Hak Bin, Senior Economist of Maybank Kim Eng and moderator, Ms Evelyn Lim, Executive Director for BDO's Tax Advisory



Dr Michael Teng explaining the need for assistance in corporate turnaround even for healthy companies in this current global economic slowdown



Mr Liew Wai Leong, CEO, GS1 Singapore Limited, welcoming the participants to the seminar



Participants and speakers networking with representatives from Aladdin Street Singapore and GS1 Singapore after the seminar

Event : GS1 Singapore e-Commerce Seminar 2017: Building Your Online Business Competition

Date : 8 March 2017

Venue : Aladdin Street Singapore

By : GS1 Singapore

Congratulations!

Mr Saw Ken Wye

SMF Council Member

SMF Council member, Mr Saw Ken Wye was honoured with the 2017 Hall of Fame of the IT Leader Awards by Singapore Computer Society's (SCS). The award celebrates his achievements and contributions to the infocomm industry. Mr Saw is also the Chairman of the Singapore infocomm Technology Federation (SiTF).



Like us on our Facebook Page to receive updates on industry events, news, and more!



www.facebook.com/smfederation

SMF Welcomes You!

SMF is pleased to welcome the following new members as part of our family.*

- | | |
|---|---|
| 1. Acxodus Pte Ltd | 22. Octopus Retail Management Pte Ltd |
| 2. Alphino Pte Ltd | 23. Qiagen Singapore Pte Ltd |
| 3. Antnez Pte Ltd | 24. Santen Pharmaceutical Asia Pte Ltd |
| 4. Archer Logic (S) Pte Ltd | 25. Shanon Design (S) Pte Ltd |
| 5. Armor Asia Imaging Supplies Pte Ltd | 26. Si2i Limited |
| 6. Auk Industries Pte Ltd | 27. Tantex Pte Ltd |
| 7. Bake Mission Pte Ltd | 28. Tata Communications International Pte Ltd |
| 8. BSI Group Singapore Pte Ltd | 29. Transystem FA (S) Pte Ltd |
| 9. Bureau Veritas Singapore Pte Ltd | 30. Universal Robots (Singapore) Pte Ltd |
| 10. CarPal SG Pte Ltd | 31. Value Valves Pte Ltd |
| 11. ChemADVISOR Asia Pte. Ltd. | 32. VDL Enabling Technologies Group (Singapore) Pte Ltd |
| 12. Chun Hoe Pte Ltd | 33. VPS Corporate Advisory Pte Ltd |
| 13. Davidson Business Systems Pte Ltd | 34. Waters Pacific Private Limited |
| 14. Denova Sciences Pte Ltd | 35. YNL 360 Pte Ltd |
| 15. Host Pte Ltd | 36. Zane Pte Ltd |
| 16. Icatcher Productions Pte Ltd | 37. Zelcos (S) Pte Ltd |
| 17. Instad Pre Fabrication Pte Ltd | |
| 18. Kardin Logistics Pte Ltd | |
| 19. Lim Kee Food Manufacturing Pte Ltd | |
| 20. Mitsuboshi Overseas Headquarters Private Limited | |
| 21. NEC Fielding Information Technology Services (Beijing) Co., Ltd | |

**Listed in alphabetical order and information accurate as of 10 March 2017*

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