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ChemDIGEST

Jan-Mar 2018



SCIC Annual Dinner 2018 and
Responsible Care Awards 2017
Presentation



Managing Security Practices



SCIC SME Outreach Programme
with Nanyang Polytechnic



SCIC
SINGAPORE CHEMICAL
INDUSTRY COUNCIL

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Presentation of a token of appreciation to Mr Stephen Fowler by SCIC Chairperson, Ms Suiniaty Basirun

Appreciation of Contributions Rendered to SCIC Director – Mr Stephen Fowler

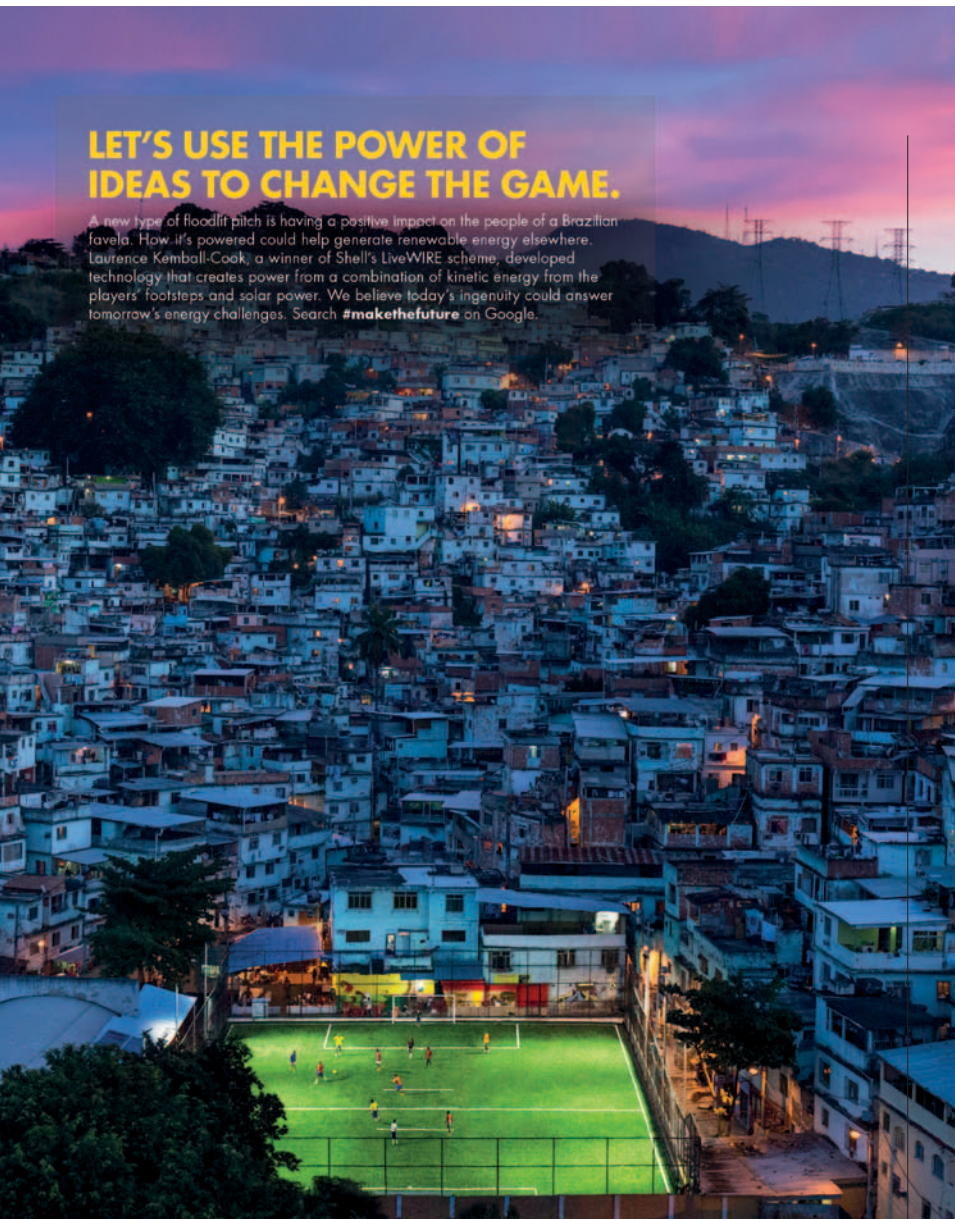
The Board and Secretariat office of SCIC would like to extend our heartfelt appreciation to Mr Stephen Fowler of Shell Jurong Island for his contributions towards SCIC. During his tenure as a Director of the Board from 2014 to 2017, he led the then newly formed SCIC Major Hazards Installation (MHI) Committee and has been actively involved in driving various industry initiatives and addressing advocacy issues on the Process Safety regulatory framework in Singapore. His leadership and commitment have been critical in the overall Safety Case implementation journey for Singapore.

His ceaseless support and contribution were evident in his involvements in discussions with the various statutory agencies, participation in the SCIC Industry Resource Committee as well as his provision of assistance, guidance and resources to the secretariat office.

SCIC extends its best wishes to Mr Fowler in his new assignment.

LET'S USE THE POWER OF IDEAS TO CHANGE THE GAME.

A new type of floodlit pitch is having a positive impact on the people of a Brazilian favela. How it's powered could help generate renewable energy elsewhere. Laurence Kemball-Cook, a winner of Shell's LiveWIRE scheme, developed technology that creates power from a combination of kinetic energy from the players' footsteps and solar power. We believe today's ingenuity could answer tomorrow's energy challenges. Search **#makethefuture** on Google.





SCIC Annual Dinner 2018 and Responsible Care



SCIC Chairperson Ms Suiniaty Basirun delivering the Annual Dinner Address

On 23 March 2018, industry members and invited guests including representatives from various government agencies attended the SCIC Annual Dinner and Responsible Care Awards Presentation held at the Mandarin Oriental Singapore. The annual event was graced by the Minister for the Environment and Water Resources, Masagos Zulkifli. It was also attended by over 300 representatives from the chemical and petrochemical companies, coming together to celebrate their achievements in the Responsible Care implementation programme.



Guest of Honor, Minister Masagos with Mr David LeBlanc, Managing Director of Air Liquide Singapore Pte Ltd, Co-sponsor of Responsible Care Awards 2017



Awards 2017 Presentation



Responsible Care Award Recipients

SCDF-SCIC Responsible Care Collaboration and Recognition Scheme

Responsible Care signatory members who have achieved Responsible Care Gold Award for CAER Code and have also met the standard equivalent to SCDF's CERT audit (documentation) requirement would be recognised under the SCIC-SCDF Responsible Care Collaboration and Recognition Scheme developed by SCIC and SCDF. This recognition scheme allows the organization to seek exemption for the documentation assessment component under the annual SCDF CERT audit scheme in WY2018 (April 2018 – March 2019).

Companies recognised under the SCIC-SCDF Responsible Care Collaboration and Recognition Scheme 2017:

- ExxonMobil Chemical Asia Pacific Pte Ltd
- Megachem Ltd
- Mitsui Phenols Singapore Pte Ltd
- Petrochemical Corporation of Singapore (Private) Limited
- Shell Chemicals Seraya Pte Ltd
- Sumitomo Chemical Singapore Pte Ltd
- The Polyolefin Company (S) Pte Ltd

WSHC-SCIC Responsible Care Collaboration and Recognition Scheme

Responsible Care signatory members who have achieved Responsible Care Achievement Award or higher for Employee Health & Safety (EHS) would be recognised under the SCIC-WSHC Responsible Care Collaboration and Recognition Scheme which was developed by SCIC and WSHC in 2015. This recognition scheme allows the organization to seek direct entry to WSHC's bizSAFE Level 3.



SCIC Annual Dinner 2018 and Responsible Care

Responsible Care Awards 2017 – Panel of Judges

The Singapore Chemical Industry Council wishes to thank the panel of judges of the Responsible Care Awards 2017 for their time, effort and commitment towards the unenviable task of reviewing and judging award submissions from Responsible Care signatory companies.

Co-chairs

Mr Ng Chee Wai, *Petrochemical Corporation of Singapore (Private) Limited*

Mr Andrew Ng, *Air Liquide Singapore Pte Ltd*

Mr Cheah Hoong Chuang, *Eastman Chemical Singapore Pte Ltd*

Members

Mr Lim Eng Wee, *Ministry of Manpower*

Ms Ng Xiao Qian, *Ministry of Manpower*

Ms Kee Su Yin, *National Environment Agency*

LTA Shavithiya Shanmugam, *Singapore Civil Defence Force*

Ms Siah Huey Ling, *BASF South East Asia Pte Ltd*

Ms Loh Yin May, *Celanese Singapore Pte Ltd*

Mr Dennis Tan, *Chevron Phillips Singapore Chemicals (Private) Limited*

Mr Andrew Ong, *Dow Chemical Pacific (Singapore) Pte Ltd*

Mr Vinay Narsimha Nayak, *DuPont Company (Singapore) Pte Ltd*

Mr Amit Ramesh, *DuPont Company (Singapore) Pte Ltd*

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Mr Selvarasu L, *Sembcorp Industries Ltd (Utilities Singapore)*

Ms Cheong Shu Jun, *Shell Chemicals Seraya Pte Ltd*

Mr Chai Ming Han, *Shell Eastern Trading (Pte) Ltd*

Mr Varian Han, *Shell Eastern Petroleum (Pte) Ltd*

Mr Thet Naing, *Sumitomo Chemical Asia Pte Ltd*

Mr Tay Khoon Eng, *The Polyolefin Company (S) Pte Ltd*

SCIC Distinguished Leadership Award

recognises outstanding industry individual whose effective leadership and contributions have resulted in significant changes and extraordinary impact to the industry. Recipients bestowed the SCIC Distinguished Leadership Award served as inspiring role model to all who strive to make positive changes for the betterment of the chemical industry.

SCIC Chairperson, Ms Suiniaty Basirun was presented the SCIC Distinguished Leadership Award by SCIC Executive Director, Mr Terence Koh during the dinner event.

Ms Basirun is the Business Director (Home and Personal Care, Asia Pacific) for Dow Chemical Pacific (Singapore) Pte Ltd. She first joined the SCIC in 2012 as a Board Member before taking over the role of Chairperson in 2016.

During her tenure as a Board Member and Chairperson of SCIC, her dedicated support and contribution in driving various initiatives and advocacy issues have been exemplary to the overall development of industry. These were evident in her involvements in dialogues and discussions with the various statutory agencies as well as her provision of assistance and guidance to the secretariat office.



She also took the lead in the SCIC Communications Committee in 2014, helping to enhance the council's communication strategy to better reach out to all relevant stakeholders. Under her guidance, the committee developed the SCIC 10th Anniversary Commemorative Booklet. This booklet captures the key milestones of SCIC and the industry in its infancy years. It was successfully launched in 2017.



Awards 2017 Presentation



SCIC Appreciation Award

In a continuous effort to recognise the contribution of individual towards the progress of the chemical industry, SCIC presented the following individuals the SCIC Appreciation Awards during the dinner.

Mr Low Wai Hoe

ExxonMobil Asia Pacific Pte Ltd

Mr Low Wai Hoe is the Regulatory Planning Manager of ExxonMobil Asia Pacific Pte Ltd. He is currently the Chairman of SCIC Major Hazard Installations (MHI) committee.

Wai Hoe first led the SCIC Process Safety Steering Team which developed the Industry Position Paper on Process Safety Regulatory Framework in Singapore. When the SCIC MHI committee was formed in 2015, he took on the role as the committee chairman and was responsible for overseeing the MHI implementation. As a committee chairman, he drove various industry capability building efforts and address industry's issues and concerns with the regulatory agencies. He also played a key role in guiding the Joint Government-Industry Workgroup which developed the Safety Case Technical and Assessment Guide for the Singapore Chemical Industry.

Apart from his contribution to the MHI Committee, Wai Hoe was also actively involved in other working groups within SCIC. This includes the SCIC Energy Conservation Act (ECA) Workgroup, which looks into enhanced ECA regulation. Wai Hoe's contribution is also demonstrated through the Carbon Pricing Workgroup, which developed the Industry Position Paper on Carbon Tax Policy Implementation. He recently participated as a member of the newly formed Industry Sustainability committee.

LTC Han Fook Kuang

Singapore Civil Defence Force

LTC Han has been supporting the chemical industry through his active involvement and contribution in several workgroups of SCIC and Standards Development Organisation@SCIC (SDO@SCIC) over the past years. He is currently the Senior Fire Safety Consultant in the Fire Safety & Shelter Department of SCDF.

LTC Han's willingness to share knowledge in the various workgroups of SCIC and SDO@SCIC has been most valuable in developing relevant and fit-for-purpose industry guidelines for use by the chemical industry. One of which is the industry publication on the Guidelines on Fire Safety for Open Plant Structure in Oil, Chemical and Process Industries which is now used as a base standard for the impending Singapore Standard on Fire Safety for Open Plant Processing Facilities in Oil, Chemical and Process Industries developed under the Singapore Standardisation Programme.

LTC Han has shown great support in the Singapore Standardisation Programme with his continued active contributions in various working groups for the review and development of Singapore Standards. His key involvement in the revised SS 532 *Code of Practice for Storage of Flammable Liquids* includes active participation in committee meetings as a Working Group member and participation as a speaker in stakeholders' dialogue session and standards launch event spanning from Year 2013 to 2016. In the recent years, he has also contributed his vast knowledge and expertise in two Working Groups developing the impending standards (Code of practice for Fire Safety for Laboratories Using Chemicals and the revised SS 512 Code of Practice for the Design, Construction and Operation of Pipeline Service Corridors).

It is our pleasure to have LTC Han to also contribute his technical expertise in the Singapore's Technical Committee for Chemicals and Processes for the new 3-Year Term till year 2020.



Presentation of the SCIC Appreciation Award to Mr Low Wai Hoe



SCIC Appreciation Lunch

The committees and workgroups of SCIC are participated and supported by industry members who have contributed their time and effort in driving the various industry initiative and programmes. As part of our appreciation to thank members for their contributions, SCIC organized its annual appreciation and networking luncheon on 19 February, at the Aquamarine, Marina Mandarin Singapore.



Welcome New Committee Members

SCIC would like to extend a warm welcome of the following members to SCIC Committees:

CHIMAC Committee

Members

Mr Andreas Krobjilowsk

General Manager

Shell Chemicals Seraya Pte Ltd



Appreciation to Committee Members

SCIC would like to express its thanks to the following committee members for their contributions to SCIC during their tenure as a member of the following Committees:

CHIMAC Committee

Mr Georges Barbey

Arlanxeo Singapore

Mr Yeow Chun Fey

BASF South East Asia Pte Ltd

Communications Committee

Ms Eunice Chin

Chevron Oronite Pte Ltd



Stakeholders' Dialogue Session during Public Comment on Draft New Singapore Standard – *Code of practice for the fire safety for laboratories using chemicals*



A Stakeholders' Dialogue Session on the Draft of New Singapore Standard on *Code of practice for the fire safety for laboratories using chemicals* was held on 23 January 2018 during the 2-month public comment period from 15 December 2017 to 16 February 2018.

Key stakeholders were engaged in the committees involved in the development of this standard, which applies to all laboratories in industry, IHLs, polytechnics, hospitals, commercial and research entities and government bodies. This dialogue session was held during the public comment period to gather technical feedback from the relevant public outside the committees involved in this standard.

An overwhelming number attended this dialogue session given the wide range of stakeholders that would be affected by this standard that will be referred to by the

appropriate regulators. 224 participants from 115 enterprises attended the event, including petrochemical, pharmaceutical, gas manufacturing and healthcare sector, research entities and institutes of higher learning.

The dialogue session was organised by the Working Group on Fire Safety for Laboratories who drafted the standard. The Working Group is under the purview of the Technical Committee for Petroleum Processes and Products, one of the nine Technical Committees under the Chemical Standards Committee.

The following were key topics of the standard highlighted at the dialogue:

- Laboratory unit classification, design and construction
- Laboratory ventilation systems and hood requirements
- Compressed and liquefied gases



The panel discussion held at the end of the dialogue session provided an opportunity for the participants to seek clarifications on the draft standard through this face-to-face dialogue session.

The standard is targeted for completion in 2018.





Community Outreach for the Community Development Council Officials (CDC) – Visit To Jurong Island – “The Petrochemical Hub Of Singapore”



Group photo @ ExxonMobil's Singapore Chemical Plant



Plant tour @ Eastman's site

Members of public is an important stakeholder that SCIC has continued with its outreach efforts since 2012.

Annually, SCIC with the support of member companies play host to members of CERT (Community Emergency Response Team) and C2E (Community Emergency & Engagement) Committee from the the various districts to Jurong Island. About 200 CERT and C2E members participated in the community outreach event organised on 20 Jan 2018. They were provided information which has helped them to better understand the safety operations of the chemical industry through the presentations sharing, Q&A discussions and site tours arranged. The concerns on flaring incidents associated with the chemical operations in Jurong Island were also addressed and well-discussed during the session.

The community outreach event has also received several positive feedback from by participants who had attended. SCIC

would like to thank member companies of Chevron Oronite, Eastman Chemical Singapore, ExxonMobil Chemical Asia Pacific and Mitsui Elastomers Singapore for their support as hosting sites.

SCIC will continue our outreach efforts as part of the Responsible Care initiatives on the Community Awareness & Emergency Response Code and we welcome signatory companies' support and participation.



Group photo @ Chevron Oronite's site



Sharing session @ Mitsui Elastomers' site



Responsible Care Clinic Session

The concept of “Clinic” provides a face-to-face individual opportunity for the signatories to engage the members of the Responsible Care Committee code teams. It allows valuable exchange of information on the areas of improvements in the implementation of the programme.



Since the introduction of “Clinic” sessions by the SCIC Responsible Care Committee last year, the feedback received from the signatories who had attended have been most positive. A series of Responsible Care clinic sessions were conducted this year which saw an overwhelming interest by the signatories. SCIC looks forward to the participation and support from the signatories in the RC related events organised.



Series of Responsible Care clinic session's "consultation in progress"

Managing Security Practices – Building on to the current 6 codes of Responsible Care management practices

Since the incorporation of the 7th code on Security into Singapore's Responsible Care programme last year, a set of self-evaluation guidelines on security practices has been developed. These fit-for-purpose guidelines aim to encourage companies to achieve continuous improvements in security performances through a risk-based approach. Briefing sessions will be organised to help the industry interpret this implementation guiding principles in the coming months.





Cost-Effective Productivity Practices in the Process Industry

The Productivity Council in SCIC formed the Productivity Practices Working Group in Q2 2017 in an effort to address the recommendations from the Activity Analysis program. The working group focuses on developing a list of good productivity practices in identified areas which requires minimum resource investment to implement in the Process Industry. Comprising both Plant Owner representatives as well as Main Contractor representatives, the working group members shared about their current practices and discussed productivity challenges faced in the industry.

The working group eventually came up with a few cost-effective recommendations that may be applicable to your company. Members are encourage to implement these practices to increase greater workers' productivity.

1. Waiting Time – Waiting for Permits, Waiting for Equipment

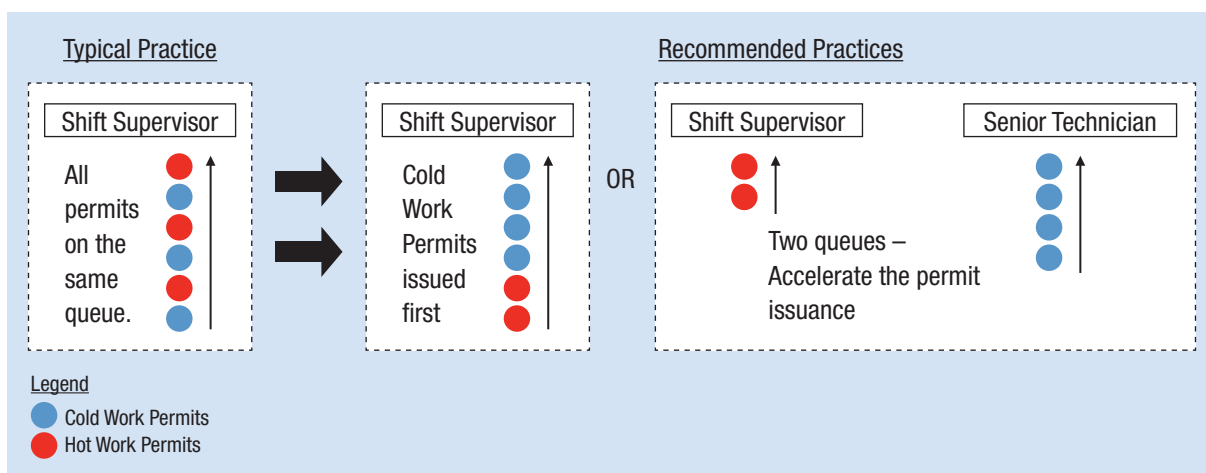
Current Productivity Barrier

A majority of workers were observed to be spending their time waiting for permits and equipment.

Recommended Practice(s)

1.1) Permit Issuing:

- i) Issuance of Cold Work Permit first followed by issuance of Hot Work Permits.
- ii) Qualify Senior Process Technicians to issue Non-Critical Cold Work Permits.



1.2) Equipment Mobilization:

- i) Plant owner: One time evaluation and allocation of designated equipment laydown areas near process unit.
- ii) Contractor: To implement a robust and sustainable housekeeping program for laydown areas.



2. Tack Welding – 6G welders are not required

Current Productivity Barrier

The 6G welding qualification was thought to be a requirement for tack welding during pipe fitting preparation work. Significant time was spent by 6G welders waiting during the pipe fitting preparation work.

Recommended Practice(s)

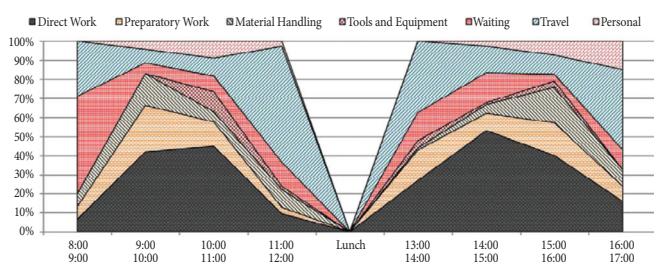
2.1) Resource Allocation:

- i) During turnaround projects and construction projects which have significant welding work, 2G/3G welders can perform fit-up & tack welding work. 6G welders can arrive later to complete the welding work.
- ii) Implement a robust quality checking system to ensure that the quality of weld is not compromised.

3. Lunch Hours

Current Productivity Barrier

Significantly reduced direct work hours of workers after lunch time. Multiple trips are often made to mobilise workers to larger sites.



Recommended Practice(s)

- 3.1) Use the Public Announcement System to announce the end of lunch time 10 minutes prior to and at end of lunch hour to trigger a timely movement of workers to the jobsite.
- 3.2) Explore transportation options like staggered lunch hours to reduce frequency of trips.

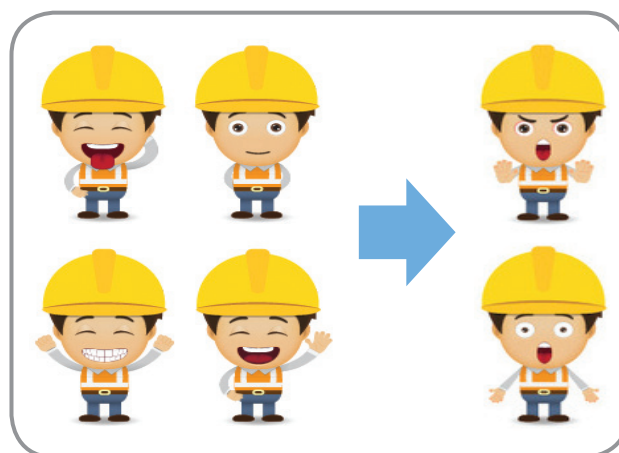
4. Hot Work Crew

Current Productivity Barrier

Having a full-time personnel fire watch team was thought to be a requirement. In fact, this is not required by regulations and is only a plant safety requirement. There are potential opportunities to reduce crew size for better resource distribution and encouraging multi-skilling.

Recommended Practice(s)

- 4.1) To have other workers such as pipe fitters trained and assuming the role of a fire watch when hot works are being carried out by the welder.
- 4.2) To reduce a typical hot work crew size from 4 to 2 for less complex hot works.



Contributed by: Productivity Council – Productivity Practices Working Group



National Trade Platform rolls out business-to-business tier of services

The business-to-business tier of the National Trade Platform (NTP) went online on 20 December 2017, with the Data Repository and a suite of trade-related value-added services like shipment arrangement, trade financing and more now available. Additional features will be progressively introduced.

Traders can now register for a complimentary NTP account and enjoy unlimited usage of NTP's utility services at no charge. This promotion is available for a limited period only.

This account allows traders to experience the range of tools and services available on the NTP, which will eventually include the full range of trade-related services that will enable end-to-end digital trade.

Traders can now use the secured digital data repository on the NTP to store and share structured data intended for trade-related transactions on the platform. This will eliminate the need for repeated data entry, saving businesses time and manpower, improve data accuracy and build trust across the trade ecosystem.

The online cloud-based tool offers digitalisation, uploading, and storage services for documents. It allows users to

easily manage the access to information and the sharing of data with their business partners or government agencies.

A variety of trade-related value-added services are also available on the NTP, and these are set to grow in the coming months. Services such as arranging shipments and preparing permits, trade research and insights, supply chain financing, and invoice reconciliation are already available on the

NTP today (see list of available services in Table 1).

Since December 2017, the NTP project team has been engaging existing TradeXchange users to transit them smoothly to the NTP, and are also welcoming new users on the platform.

To find out more about the NTP, please visit www.trade.gov.sg.

Table 1: Value-Added Services (VAS) currently available

VAS CATEGORY	VAS
Understand market	Trade Research and Insights
Prepare documents	Cloud-based Enterprise Resource Planning (ERP) <i>(available soon)</i> Cloud-based Workflow Digitisation and Automation International Connectivity <i>(available soon)</i>
Finance trade	Invoice/Supply Chain Financing
Arrange shipment	Container Marketplace and Booking Freight Management Service
Declare customs	Electronic Certificate of Origin (eCO) Preparation Trade Permit Preparation Trade Permit Report Trade Permit Return
Report & payment	Freight Invoice Reconciliation

More information on these services can be found on the NTP VAS catalogue at www.trade.gov.sg/public/browse-vas-catalogue.

Join us – be a part of the collaboration!

We remain open to exploring opportunities with interested value-added services providers. If you have any feedback or suggestions, such as datasets or Application Programming Interfaces (APIs) that you would like to be available on the NTP, contact the project team at enquiry_NTP@customs.gov.sg.

Register for CorpPass

In line with the government's initiative to unify online government connections and transactions, businesses will be required to use their CorpPass to access and use the business-to-government (B2G) and business-to-business (B2B) services on the NTP. Businesses will also be required to select the "Singapore Customs NTP" e-Service in CorpPass to access the NTP. Find out more and register today at <https://www.corppass.gov.sg/>

The National Trade Platform (NTP)

The NTP is a one-stop trade information management platform that facilitates and enables end-to-end electronic data sharing and workflow integration among businesses and the government across the entire trade ecosystem. It will replace the current TradeNet and TradeXchange. Visit us at www.trade.gov.sg.

Contributed By: Singapore Customs. This article was first published in Singapore Customs magazine inSYNC (Issue 48, Jan-Mar 2018)



SCIC SME Outreach Programme with Nanyang Polytechnic

As part of Nanyang Polytechnic's efforts to prepare its students for the workforce, the SCIC SME Committee was invited to give a career talk on 17 January 2018 to the graduating cohort from the following Diploma courses: Biologics & Process Technology, Chemical & Green Technology and Chemical & Pharmaceutical Technology.



Mr Ooi Tiat Jin, General Manager of Absotech Pte Ltd and Mr Teng Chen Shun, Group Strategy & Corporate Affairs Manager of WWRC Pte Ltd provided the students with an insightful overview of the Singapore Chemical Industry, employment opportunities as well as career prospects from a SME's perspective.



Networking with the students at the outreach session

Such outreach sessions are important to ensure that future manpower needs of the growing industry can be met. Furthermore, this industry-IHL platform allows positive mindset shaping and broadens students' perspective on the career progression in a SME set-up as they decide on their potential future employment in the industry. The SCIC SME Committee would like to encourage fellow SME member companies to participate and share at subsequent outreach sessions. Companies who are interested may contact the SCIC at secretariat@scic.sg for more information.

Leveraging on Technologies to Improve Businesses – *The SCIC SME Technology Series*



The SCIC SME Technology Series 2018, a new initiative by the SCIC SME Committee, was rolled out early this year.

This initiative aims to introduce SME members to new technologies and developments, as well as provide platforms for potential collaborations them.

The inaugural event was a visit to the Nanyang Polytechnic's Centres of Excellence, School of Engineering on 6 February 2018.

The visit was attended by close to 20 participants from more than 10 companies. During the visit, they were introduced to existing as well as upcoming innovations and projects from the 4 centres located in the polytechnic – Centre for Digital & Precision Engineering, Centre of Innovation Electronics & IoT, Additive Manufacturing Innovation Centre and Automation & Robotics Innovation Centre.

The event was well received by the participants who expressed interest to attend similar visits in the future. Feedback from participants were positive, with many responding that the event was enriching and had provided them with a better understanding of the latest technologies in the market.

Through this series of visits to various interesting technology centres, SCIC hopes to provide more avenues for members to explore new technologies that will enhance and improve their business operations. The committee plans to organise one visit per quarter and interested companies can contact the secretariat for more information.



SCIC SME Technology Series Centre Visit

Contributed by: SCIC SME (Small Medium Enterprises) Committee



Supply Chain Security

Risks within the supply chain, which may arise from various threats among them being fraud, terrorism, theft, piracy or political instability to name a few, are a reality that every company in today's closely related international business community faces.

What then are the threats to Business?

Consistently, the sustained threat of terrorism is the most visible manifestation of the security threats to global businesses. The terrorist attempt some years ago from Yemen involving the use of legitimate supply chains to carry in this case explosive devices hidden in a printer on an airline flying into the United States are classic examples and continues a disturbing trend that terrorists are not adverse to attacking soft targets including civilians and commercial inter modal transport nodes typically characterized by those belonging to the logistics industry.

Apart from this, the lone-wolf terrorist attacks carried out by self radicalized supporters recently In UK and the US are chilling reminders - that a lone individual can easily use available tools and be influenced by violent ideology propagated by the internet to wreak untold havoc, fear and destruction on the innocent public.

Nonetheless, it is important to stress that terrorism is by no means the only security threat. Businesses faced a broad spectrum of other security threats.

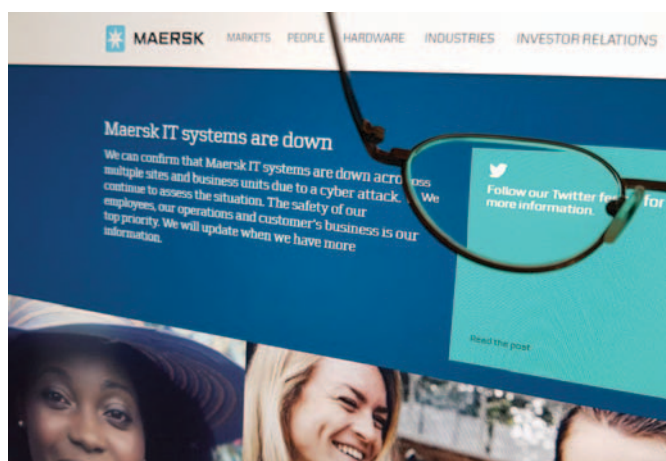
A single disgruntled employee not unlike a lone-wolf terrorist could become a cyber-threat and as an example cause havoc

by sabotaging the IT network and severely disrupt supply-chain programs and/or Warehouse Management System.

Of course, not all criminal acts are carried out by disgruntled employees - sometimes the threats are carried out by insider criminals from cargo theft syndicates. Cargo theft effects the global supply-chain by about 30 billion US dollars annually. A past global threat assessment report by Freight Watch re-iterated that as global businesses adapt to a changing economy, cargo theft criminals will also be adapting similarly. The report mentions that 'Cargo Theft Gangs' are becoming increasingly active, stealing cargo in significant quantities and making huge profits on the black market. Those gangs focus on cargo in facilities as well as during transportation.



Technology is double edged – while companies strive to leverage more on technology to alleviate their dependency on physical resources and improve service levels by providing visibility through portals and systems, this in turn opens up more 'opportunities' for individual/groups with independent agenda. Ransomware attacks are on the rise, and the most recent 'Petya' hit on renown Danish shipping line being most prominent till date. The attack brought the transport giant to its knees and knocked supply chain back to the stone-age when it had to shut down all IT and communications infrastructure as a security measure, affected 17 of its terminals and created confusion and congestion in all its residing ports. Due to the large amount of stakeholders involved – logistics firm, freight forwarders, manufacturers and consumers, the ripple effect on global supply chain can still be felt months after the recovery.





What does supply chain security threats mean for Businesses?

For companies involved in distribution of goods or provision of logistic services building a trusted brand in the secured supply chain is top on the list for this fully-integrated services provider.

To achieve this aim of a regional or even global secured supply-chain companies face numerous challenges due to the inequality of security levels which may be impacted among other areas different national regulations and enforcements, infrastructure and operational processes, awareness and training.

A unifying structure with business operations in multiple countries, having a global standard for supply chain security management in the form of a common international standard for supply-chain security is an important step forward to achieve higher level of security.

Such a security standard is important in improving the companies' inventory management and reducing supply chain risks. Previously there were different security programs, which were developed based on customer, industry or customs demands. However, the missing link was an overarching system to control the different security processes managing all these various but slightly different security programs. With the ISO 28000 supply-chain security standard as the base it is a flexible framework that can easily be integrated with other security initiatives such as Singapore's Secure Trade Partnership (STP) or STP-Plus guidelines, Technology Asset Protection Association (TAPA) standards, the Responsible Care © Security Code or Customs-Trade Partnership Against Terrorism (C-TPAT) programs to high-light just a few.



How does adopting supply chain security programmes provide enhanced capabilities?

A past study by Stanford University show that investment in supply chain security can bring about business benefits as follows in areas of enhanced efficiency, visibility, resilience, inventory management and customer relations. One of the salient benefit was for example a 26% reduction in customer attrition. In other words, companies loose less customers if they invest in supply chain security.

In the current competitive business environment, companies that operate in the supply chain cannot ignore the benefits that investing in supply chain security brings about collateral benefits in brand differentiation and market competitiveness.

Contributed by: SCIC L&D (Logistics & Distribution) Committee



Engineering Standards and Codes

The construction, fabrication, manufacturing and inspection processes in the process industry are governed and guided by Acts/Regulations, Codes and Standards. Of specific interest to the chemical process industry are those Codes and Standards for pressure vessels, tanks, boilers and related equipment, piping, electrical design, buildings, storage, plumbing and sanitary facilities, structural steel, fire protection, and safety, etc.

The following is a brief description of each category and how it is applied.

ACTS/REGULATIONS

Acts/Regulations are passed by Parliament, and include requirements to be met. Examples include the Workplace Safety and Health Act and the Workplace Safety and Health (Major Hazard Installations) Regulations 2017.

CODES

Codes provide a set of safety-related requirements and recommendations for manufactured, fabricated or constructed objects or facilities. These may incorporate requirements or recommendations from Acts / Regulations or Standards. Examples of some commonly used Codes are the ASME Boiler and Pressure Vessel Code (B&PVC) and the AWS D1.1 Structural Welding Code – Steel. The B&PVC covers pressure-related equipment from refineries and unfired pressure vessels to nuclear power generation, and the AWS D1.1 Code covers welded structures of all types.

STANDARDS

Standards are published documents that establish engineering or technical requirements or recommended practices for products, practices, methods or operations.

Engineering-related Standards specify characteristics and technical details to be met by the relevant products, systems and processes. Adherence to such Engineering Standards ensures compliance with minimum safety requirements, and that the product, system and process perform consistently and reliably, and can interface with other Standard-compliant equipment.

Examples are Singapore Standards (SS), NFPA Standards and API Standards.





DEVELOPING STANDARDS

The views and expertise of representatives of manufacturers, suppliers, government bodies, research organisations, academia and consumers are obtained and the Standard is then subjected to a period of public enquiry and full consultation. The final Standard then represents the consensus on current best practices.

BENEFITS OF STANDARDS

Standards play a strategic role in adding value to brands by aligning products and services with industry or international practices and systems. Standards facilitate industry transformation, improve quality, increase market access, raise productivity, enable inter-operability and boost consumer confidence.



Adopting the Standards can allow companies to build its capabilities, resulting in higher productivity, reduced costs and enhanced business competitiveness by ensuring that products and services meet industry or international practices and systems.

References:

- <https://www.enterprisesg.gov.sg/quality-standards/standards>
- <http://www.mom.gov.sg/workplace-safety-and-health>
- https://www.scdf.gov.sg/content/scdf_internet/en/fire-safety/acts-codes-regulations.html
- <https://www.iso.org/standards.html>
- https://asnt.org/MajorSiteSections/NDT-Resource-Center/Codes_and_Standards/Codes_and_Standard_Bodies.aspx
- http://www.api.org/publications-standards-and-statistics/standards/~/_media/Files/Publications/FAQ/valueofstandards.ashx
- <https://www.nfpa.org/Codes-and-Standards>
- <https://www.astm.org/Standard/standards-and-publications.html>

Contributed by: SCIC P&E (Process & Engineering) Committee



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Forthcoming Events

April – June 2018

19 & 20 April

SCIC Training Course on Regulatory, Technical & Safety Requirement of ISO Tank Containers



2, 3, 15 & 16 May

SCIC Safety Case Practitioners' Workshop (May Session)

9 & 10 May

Asia Petrochemical Industry Conference (APIC) 2018, Kuala Lumpur, Malaysia



30 May

Process Safety Management (PSM) Seminar

12 & 13 June

Communication Training on Media Management

Note: SCIC may change/amend the events listed above without any prior notice.

For more information on the dates of these training courses, you may visit our website at www.scic.sg or contact **SCIC** secretariat@scic.sg



AT THE FOREFRONT OF THE PETROCHEMICAL INDUSTRY TODAY, AND THE FUTURE



Care for the Health, Safety and Environment. Share with our Community



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