



**Issue 41 (December 2015)**

**SPOTLIGHT**

**WSH Institute Visiting Expert Series: Safety Case – The Way Forward**



The Workplace Safety & Health Institute (WSH Institute) in collaboration with the Ministry of Manpower (MOM) and the Institute of Chemical and Engineering Sciences (ICES) of A\*STAR organised a Visiting Experts Series seminar themed "Safety Case - The Way Forward" on 27th November 2015. More than 100 participants attended this seminar held at the Biopolis Matrix.

Dr. Gan Siok Lin, Executive Director of WSH Institute opened the session and emphasized the importance of process safety. This was followed by a presentation by Dr Laurence Cusco from the Health and Safety Laboratory (HSL), United Kingdom who gave the participants an insightful sharing on [the impact of Safety Case from the UK's perspective](#) and how research in HSL has supported the implementation of Safety Case. Dr Shaik Salim, a scientist in ICES, then shared about [the importance of process understanding in developing a Safety Case](#) and Mdm Jaime Lim, Senior Assistant Director (Major Hazard Installations) from MOM on [Safety Case from Singapore's perspective](#). The session ended with a lively discussion with the audience providing their suggestions on potential future research topics and ideas.

**WHAT'S TRENDING**

**Robo-Bulldozers Guided by Drones are Helping to Ease Japan's Labor Shortage**



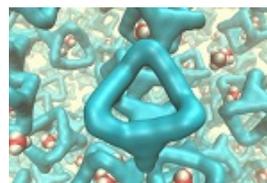
(Source: The Verge)

Komatsu is the world's second largest construction company, a venerable Japanese brand with 94 years of history that sells forklifts and bulldozers to customers around the globe. But in its home country, Komatsu has been struggling with an aging population, a trend that has left few young workers available to operate its machines.

[More...](#)

**Relevance: Would workers feel safe working with Robo-bulldozers?**

**First 'Porous Liquid' Invented**



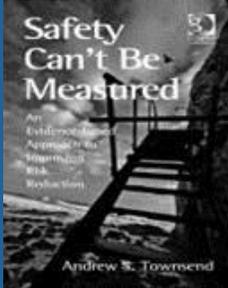
(Source: Phys Org)

Scientists at Queen's University Belfast have made a major breakthrough by making a porous liquid - with the potential for a massive range of new technologies including 'carbon capture'.

[More...](#)

**Relevance: Can we use this porous liquid in workplaces with a build-up of dangerous gases?**

## RECOMMENDED READING FROM THE WSH INSTITUTE COLLECTION\*



**TITLE:**  
Safety can't be measured: An Evidence-based Approach to Improving Risk Reduction

**AUTHOR:**  
Andrew S. Townsend

**AREA OF INTEREST:**  
Risk management, Risk assessment, Accident prevention, Safety measures and Industrial safety



Please use your QR code scanner to access the recommended reading titles on [Risk Management](#)

Click [here](#) to access WSH Institute's e-books collection.

\* The WSH Institute Collection is a compilation of WSH-related resources accessible to the public through our collaboration with the National Library Board (NLB).

## OWL HIGHLIGHTS

### 1 Construction in productivity and risk management in Singapore

**Date of publication:** February 2015

**Source:** The Singapore Engineer

Employers fail to recognise the benefits of safety as they underestimate the cost of occupational health and safety problems while overestimating the costs to remedy it. Risk management correlates with safety, but there is a misconception that it disrupts productivity, particularly in the construction industry which is the most hazardous. This article addresses how risk management can be used to improve safety and productivity, where some advantages include increased physical and psychological well-being of the workforce and better corporate image. These benefits may not be immediately recognised by the management, although they will show up in due course.

In the construction industry, addressing the risks associated with the following would improve productivity;

- Equipment, tools and services – their adequacies, efficiencies, and appropriateness;
- New technology and mechanisation – the need for extra training and supervision;
- Labour force and training – evaluating worker-dependent hazards in greater detail, implementing improved training, continuous supervision, and better communication to understand differences in skills and cultures of workers;



- New materials – conduct risk analysis before introducing new materials to better anticipate and control deterioration of productivity;
- Role of management – ensure that risk management is dutifully carried out and reviewed frequently instead of treated as a paper exercise;
- Communication – the need for two-way communication on all safety matters between supervisors and workers, and ensuring that the intent and content of the explanations have been understood and accepted by the worker.

To read more, click [here](#)

## 2 Learning from dangerous occurrences in the chemical industries

**Date of publication:** June 2015

**Source:** RISC Authority

Learning from past experiences can progressively improve safety in major hazards industries. This report looks at the types of dangerous occurrences that took place in the chemical industries, their sources, direct and underlying causes. The study compares 557 dangerous occurrences incidents related to chemical sites between 2007 and 2013. It was found that majority of the incidents took place during normal operation and tend to happen when the chemical plant is live. The most prevailing sites of dangerous occurrences were pipes, valves, and storage vessels. These are associated with the direct causes of front line operator failures, defective and degraded equipment, system failures, corrosion, runaways and overpressures. Of the incidents studied, 30% were attributed to human or organisational direct causes. Planned maintenance procedures, plant and process design, hazard analysis/risk assessment, and operating procedures were stated to be the most common underlying causes of these incidents, together with a link to human failure between them. Corrosions incidents are associated with the release of flammables and most incidents took place in the refining and petroleum industries. The prevailing underlying causes for them are failures in planned plant inspections and maintenance procedures. Other critical causes include plant and process design and ageing plants.

To read more, click [here](#).

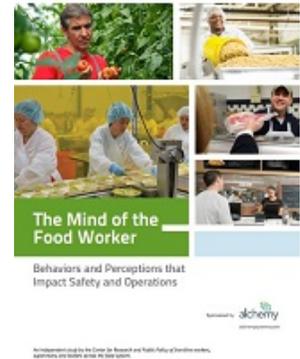
## 3 The mind of the food worker: Behaviours and perceptions that impact safety and operations

**Date of publication:** 2015

**Source:** Centre for Research and Public Policy

This study finds that almost 51% of food workers continue to work despite being sick, posing health risks to their co-workers and to the food they handle. The study surveyed 1,203 food workers across the entire food chain from production, processing, to restaurant service in the

United States as well as 79 food industry leaders. It focusses on topics such as job satisfaction, experiences and views on food and workplace safety, including perceptions of training and coaching. Product safety is ranked as most important by food workers, with 90.2% saying they feel very or somewhat responsible for the safety and well-being of their customers. With regard to workers' perceptions of their employer's commitment to their safety, 34.2% felt that employers value product safety over workplace safety. 17.1% of workers said they were injured in their first year of work. This suggests that safety programmes, particularly for new employees, need further improvement. Almost 21% of workers felt that the safety training they received is insufficient and 60.5% of supervisors and managers also felt that the lack of training is the chief cause of workplace injuries. The study also revealed the perception gaps between leaders and workers in the area of reporting of safety problem and how safe the work environment is. This indicates that employers need to consider realigning their priorities or communicate more with their workers. This would help to identify perception gaps between them and improve corporate leadership.



To read more, click [here](#).

## 4 Eliminating occupational cancer in Europe and globally



**Date of publication:** October 2015

**Source:** ETUI

This working paper argues that occupational cancer is a serious but preventable disease. Globally, an estimated 660,000 deaths are due to occupational cancers each year, double that of occupational accidents. This mortality rate is increasing due to growing life expectancies and gradual reduction of other causes of death. The paper highlights that occupational cancers are rapidly being globalised and asbestos is the number one killer. Some other factors linked to occupational cancer include: shift work, mineral oils, solar radiation, silica dust, diesel engine exhaust, poly aromatic hydrocarbons (PAHs), and exposure to hazardous substances in welding and painting work. Although there is a hierarchy of elimination and control protocols to protect workers from these agents, work-related cancers are still occurring. This underscores the need for proper regulatory measures and management of existing structures, devices and equipment, and removal operations. It further calls for stronger policies and wide international collaboration to identify and eradicate occupational cancer in Europe and globally, such as measuring lifetime exposures and related cancer cases by occupations in registers. Other recommendations include influencing and advocating measurable and continuous reductions of exposures, launching an international programme, and having the EU as the key driver for said programme with the ILO and the WHO and all relevant and professional organisations linked. The paper mentions that presenting and sharing unified scientific evidence and reports together with providing recommendations on evidence-based solutions would help to eliminate work-related cancers and avoid risks of exporting them from developed to developing countries.

To read more, click [here](#).

### Other Useful Resources

- Global status report on road safety 2015 (*WHO*)
- Four best practices for global safety implementations (*Occupational Health & Safety*)
- RC19: Recommendations for the storage of aerosol products (*RISC Authority*)
- Reducing the risk of hearing loss while ensuring compliance (*EHS Today*)
- Protecting construction workers in confined spaces: Small entity compliance guide (*Occupational Safety and Health Administration*)

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**Mission:** Enhancing WSH through knowledge, innovations and solutions.

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