

The IChemE Safety Centre

2019 Annual Report

Not getting hurt is a basic human right

People have a right to not get hurt, no matter where they are. Sadly, the high hazard industries have not always measured up against this moral imperative and the Institution of Chemical Engineers (IChemE) recognises that eternal vigilance, proactive learning and constant improvement are the price of outstanding safety performance. This was the driving force that catalysed the idea of creating a new IChemE Safety Centre (ISC).

The centre will celebrate its sixth anniversary at the beginning of next year. It has grown rapidly from its modest beginnings back in January 2014 when six founding partners came together with the aim of creating a new framework for process safety built around leadership across six functional areas.

- Knowledge and competence
- Systems and procedures
- Human factors
- Engineering and design
- Assurance
- Culture

These areas are relevant for all industries, at all points in the business life cycle. In acknowledging this proposition, the founding partners unlocked a powerful learning process and the ISC began to explore and develop the concept of sharing for safety across different industries.

Today, as 2019 draws to a close, the ISC provides a dynamic network for 37 companies, along with a further 35 supporting partners and collaborators from academia, government and other process safety centres of excellence.

This short report expands on the values and behaviours that underpin our work. It describes our achievements to date and it sets our ambitions for the years ahead. IChemE does not have a monopoly on wisdom and we recognise that safety is not proprietary; that is why the centre aims to share best practice and encourage others to do likewise. Join us on the journey to process safety excellence at the ISC.

Stay safe.

Trish Kerin

Trish Kerin
Director, ISC
September 2019



Membership

Operating Partners

The ISC is governed by an Advisory Board which sets the strategic direction for the centre. Margaret Donnan is the independent Chair of the Advisory Board.

The Advisory Board is made up of a representative of each Operating Partner. Membership of the ISC Advisory Board is set out below:

- AusGrid, Representative
- BHP, Marcus Lemin
- BP, Rob DiValerio
- Chevron, Ryan Couzens
- ConocoPhillips, Derek Cross
- ExxonMobil, Kent Alexander
- Oji Fibre Solutions, Patrick Stokes
- Paul Cornford, Orica
- Origin Energy, Patrick Murphy
- Petronas, Sulo Belawan
- Rio Tinto, Representative
- Santos, K B Ramachandran
- Shell, Damian Peake
- Todd Corporation, Representative
- Unilever, Jonathan Jett-Parmar
- Viva Energy, June Yew/Emma Stuart
- Woodside, Dave Harwood

Industry Partners

Employees from these companies play an active role in the centre's working groups:

- Acting Consulting Training
- AMOG Consulting
- Advisian
- CNA Hardy
- Dekra Insight
- ERM
- FM Global
- HIMA
- ioMosaic
- Industry Risk Control
- IRESC Global
- KBR
- Kelvin TopSet
- PDV Consultants
- Process Safety Verification
- R4Risk
- RAS Limited
- Risk Consult
- Safety Solutions
- Sherpa Consulting

Supporting Partners

These organisations are invited to participate in ISC activity and support our work:

- Aston University
- Civil Aviation Authority of New Zealand
- Dalhousie University
- Institute of Chemical & Engineering Sciences (A*Star)
- Latinamerican Council for Process Safety
- Ministry of Environment and Food of Denmark
- Michigan Technological University
- Monash University
- Newcastle University
- Norwegian Directorate for Civil Protection
- Purdue Process Safety & Assurance Center
- Queensland University Technology
- RMIT University
- SafeWork NSW
- Singapore Institute of Technology
- Universiti Teknologi Petronas
- University of Adelaide
- University of Auckland
- Università di Bologna
- University of Canterbury
- University College Cork
- University College London
- University of Leeds
- University of Limerick
- University of Manchester
- University of Melbourne
- University of New South Wales Sydney
- University of Patras
- University of Sheffield
- University of Strathclyde
- University of Surrey
- University of Toronto

Our members span 14 countries across 5 continents, covering varied sectors, such as oil and gas, mining, chemical manufacture, fast moving consumer goods and energy production and transmission.

Collaborators

ISC works collaboratively with other safety centres and has agreements in place with these organisations:

- Mary Kay O'Connor Process Safety Center
- Center of Safety Excellence
- Centre of Advanced Process Safety

We are a values-based organisation

ISC's operation is guided by a series of underlying values. These have been agreed by our advisory board. All work programmes and activities are benchmarked against these values.

ISC is a thought leader in process safety for the simple reason that creating a world in which the highest standards in process safety are maintained everywhere, at all times, is absolutely the right thing to do. ISC strives to do what is right and we always want to do things better today than we did yesterday. Our expectations are high and we constantly seek continuous improvement. We will collaborate with others whenever it is appropriate to do so. Process safety depends on partnership and we will respect our partners by keeping our promises and doing what we say we will do.

A year of progress and delivery

Work programmes are planned and delivered by a series of working groups with leadership drawn from the ranks of ISC partners. Over the last year, the groups have focused on a range of projects and topics.

Interactive learning

The centre developed three interactive case studies in 2019, thanks to a charitable donation from Saudi Aramco. The case study, Chemical Plant focuses on the principles of inherently safer design and was released in April. Underground Pipeline was launched at Hazards29 and explores how an organisation manages risk and the conflicting financial pressure. The latest case study, Laboratory Experiment, helps chemical engineering undergraduate students in conducting laboratory experiments more safely. This case study has been made freely available to help improve process safety education and create a safer environment in education laboratories.

New guidance

The ISC launched the first supplementary guide – how to build and develop process safety competence. It provides an example of the tasks and activities that could be undertaken to achieve the relevant level of competence in the range of competence topics defined in the 2nd edition of the Competency guidance document.

The Sample University Laboratory Process Safety Management System guidance was developed alongside the case study Laboratory Experiment to help better equip engineering students with operational process safety knowledge and how to practically apply it. The next step is to develop guidance materials to improve process safety interactions for students in the workplace.

The ISC produced a supplement to the ISC Guidance Document 'Lead Process Safety Metrics – selecting tracking and learning' on pressure relief devices. It is the first in a series of supplementary guidance documents that will focus on providing more clarity on the type of failures/events that be included in a company's metrics and will also aid in the goal of capturing similar data across companies and across industries.

Ongoing projects include process safety in concept select phase of a project, developing the supplementary guidance documents on competencies and metrics.

Safety lore

ISC launched the first issue of the Safety Lore in March 2018. The aim of the publication is to highlight safety issues with different processes and operations and derive the key learning points that ensure operators of industrial sites learn from past incidents. The Lore introduces one or two case studies that occurred in the past, with the key learnings. The major part of the Lore is the so-called "What can I do" session which provides useful measures in a structured way, focusing on what managers, supervisors/process safety engineers and operators can do to prevent the occurrence of similar incidents in the future. The ISC believes that presenting such cases and potential suggestions will help the industry to improve process safety. The Lore is also available in Spanish to download as well as an English podcast.

Other activity

At the Mary Kay O'Connor Process Safety Center International Symposium in October 2018, Trish Kerin was presented with the Trevor Kletz Merit Award for her work in improving process safety internationally. This recognises the impact the ISC is having in process safety and shows that the ISC has strong brand recognition now. This award reflects on the ISC and its members.

Our process safety executive education programme continues to run successfully around the world both in public courses and customised in company delivery and will continue next year. This demonstrates the interest level for directors and senior executives to ensure they understand their due diligence requirements. So far this year, the programme has run in Auckland, London and Perth with a further programme in Houston in October.

ISC introduced several senior executive breakfast briefings across the globe, it was an opportunity for a round table discussion for senior leaders to engage with ISC on current learning activities.

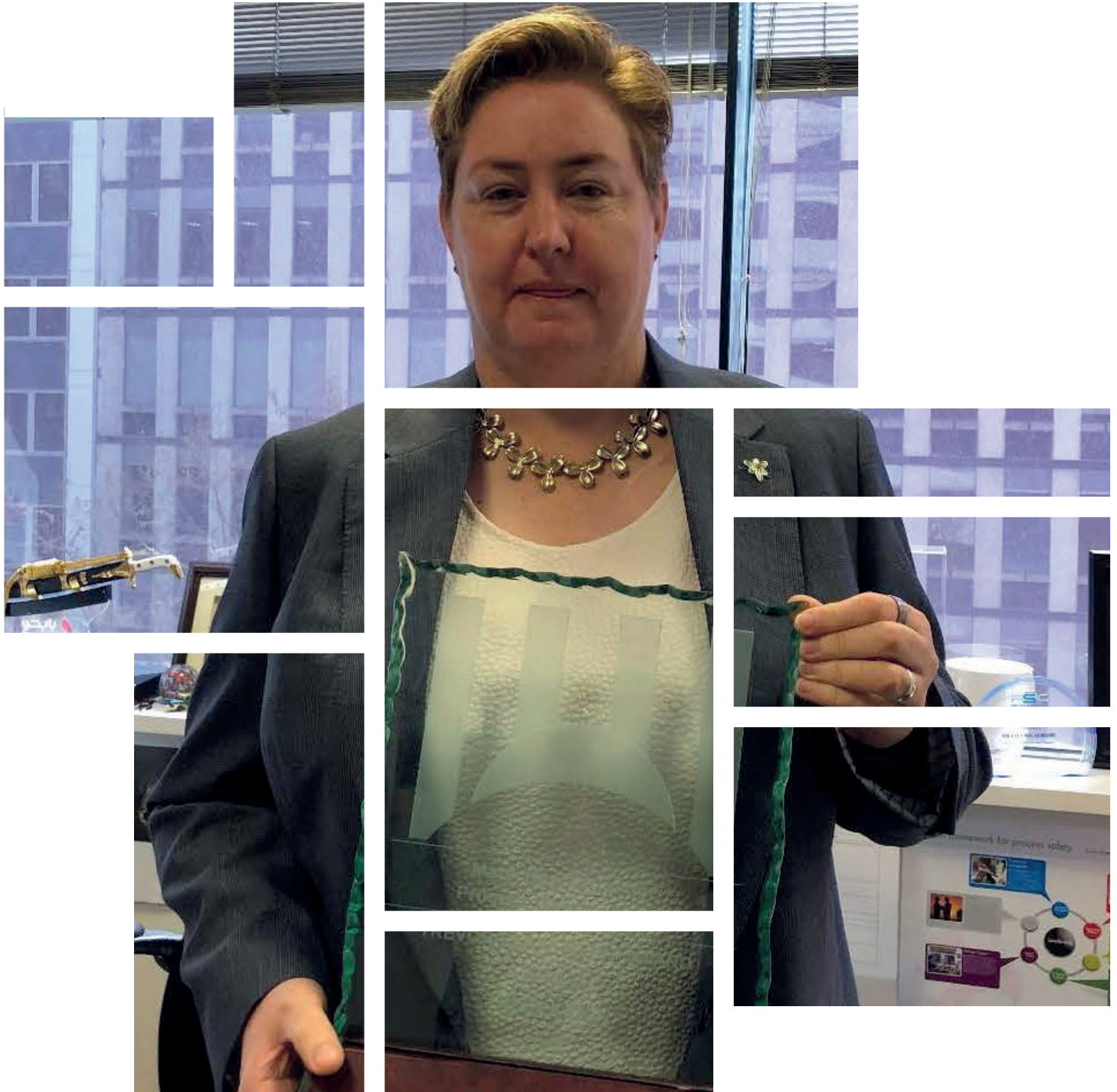
Virtual knowledge sharing was a feature of the centre's work with a series of well-attended webinars including how to learn more from accidents and control room competency as well as podcasts with Chemical Processing.

The ISC also participated in the industry event to mark the 20th Anniversary of Longford, hosted by WorkSafe Victoria and the ISC contributed two articles to the Loss Prevention Bulletin, Issue 262.

As we continue to develop member offerings, we will continue to provide ISC member only webinars and networking opportunities for members to meet and discuss process safety.

We are working on improved communications by embracing social media streams.

Where do we go from here?



The IChemE Safety Centre is committed to continuing to develop and share useful resources in process safety so that everybody, no matter where they are can access the information. These resources need to play their part in improving process safety outcomes. Because nobody should get hurt, anywhere, ever.

We welcome your support and input to our valuable work. Please contact us if you would like more information on the ISC, its work or how it may add value to your organisation.

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