

# DIGITAL CLASSROOM BOWTIE BARRIER-BASED RISK MANAGEMENT



21 – 24 Feb 2022 | 4 Half-Days



9:00 AM – 1:00 PM (GMT +8)



Zoom Pro / Microsoft Teams



From RM 1,200/pax

## Program Overview

Modern day thinking on risk management puts heavy emphasis on the use of defences or barriers to prevent losses attributed to organizational disturbances. Failure of these barriers leads to unwanted incidents.

Barrier management is therefore an important facet of risk management. The Bowtie technique is ideally suited for this purpose, allowing detailed analysis of prevention and mitigation measures – in other words, the barriers – for specific hazards and their ultimate consequences. Effective barrier management involves linking the barriers on the Bowties to specific elements of the management system such as HSE-critical activities/tasks and their accountabilities/responsibilities, standards, policies and remedial actions to address any shortfalls.

The Bowtie technique uses a visual format, thus facilitating risk communication. It is currently widely used in such diverse sectors as oil and gas, chemical process, power generation, mining, aviation/aerospace, healthcare, manufacturing, IT security, finance and government.

This 4 half day (4-hour per day) course is aimed at risk management professionals and practitioners. In this Digital Classroom, the delegates will highlighted with the key principles of the Hazards and Effects Management Process (HEMP) and how the Bowtie technique can augment risk management in their organizations, at the same time facilitating effective risk communication. Participants will be required to undertake a number of worked exercises in order to gain practical experience with the use of Bowties.

## Key Modules

- Introduction & Overview of the Hazards and Effects Management Process Exploration Activity
- Principles of Loss Prevention and the Accident Causation Model, Barrier-based Risk Management
- Interactive Bowtie Workshop – Use of the BowTieXP Software
- The Essentials of Barrier Management
- Bowtie Analysis and Building Bowtie Models Using the BowTieXP software

## Who should attend?

Practitioners and specialists in:

- Management of HSE
- Process Safety
- Operations & Maintenance,
- Engineering Design
- Projects and Enterprise Risk

## What you will learn?

- Achieve an understanding of the key principles of HEMP and the Bowtie Methodology;
- Gain an understanding of the principles that underlays loss causation. Loss prevention and barrier-based risk management;
- Acquire hands-on experience in building complete Bowtie models and performing Bowtie analysis using the BowTieXP software, and;
- Achieve a firm grasp of the essential requirements for the effective implementation of barrier management.

## Course Methodology

- Interactive Learning
- Real Case Studies
- Worked Exercises
- Q&A Session

## INTRODUCTION & OVERVIEW OF THE HAZARDS AND EFFECTS MANAGEMENT PROCESS

- Definition, Rationale and Drivers
- HEMP – The Principles
- Risk Management & ALARP
- HEMP – The Tools & Techniques
- Hazard Analysis

## PRINCIPLES OF LOSS PREVENTION AND THE ACCIDENT CAUSATION MODEL, BARRIER-BASED RISK MANAGEMENT

- Loss Prevention & The Swiss Cheese Incident Causation Model
- Cause & Effect Pathways
- Tripod Beta and BSCAT
- Barrier Failure with examples
- Combined FTA/ETA – the case for Barrier Management
- History and development of the Bowtie technique
- Visualizing risk scenarios using the Bowtie technique
- Risk Communication, Advantages & Limitations of the Bowtie technique
- Multi-sector Bowtie case files

## INTERACTIVE BOWTIE WORKSHOP – USE OF THE BOWTIEXP SOFTWARE

Bowtie nomenclature and definitions:

- Hazard
- Top Event
- Threat
- Consequence
- Control Barrier
- Recovery Preparedness Measure
- Escalation Factors
- Escalation Factor Control

- Mini-exercises on nomenclature and definitions and on creating basic Bowtie models using the BowTieXP software – key functions and features

## THE ESSENTIALS OF BARRIER MANAGEMENT

- Linking Barriers to the Management System
- Activities and Tasks and Assignment of Responsibilities
- Safety Critical Elements (SCEs) in the Bowtie
- Independent Barriers
- Barrier Effectiveness
- Corrective/Remedial Actions
- Key Functions and features in the BowTieXP software for incorporating these essential features of barrier management, including generating reports and presentations.

## BOWTIE ANALYSIS AND BUILDING BOWTIE MODELS USING THE BOWTIEXP SOFTWARE

- Syndicate Exercises

## SUMMARY & REVIEW

- Learning points and takeaways



## FAIZAL FARID WAJIDI

Faizal Farid Wajidi is an Independent Principal Consultant, specializing in HSE & Risk Management, Environmental Assessment, Health Physics and nuclear applications. He has more than 35 years of professional experience, mainly spent in the major hazard sector.

In the field HSE & Risk Management, Faizal has broad experience of applying risk management tools and has applied the software-based BowTie tool for offshore HSE Case studies. Among the earliest users of the BowTieXP software, he is a qualified and experienced BowTie workshop facilitator having led several HSE risk- and Enterprise risk-based BowTie workshops for safety regulators and for major companies in the oil and gas, petrochemical, road transportation, infrastructure (co-generation, district cooling, biomass, piped gas, desalination), engineering, oil-well services, maritime and aviation/aerospace sectors in Malaysia, Indonesia and Singapore.

**BowTieXP**  
Advanced Practitioner  
Official Certified Partner

Faizal has previously worked with Shell, Schlumberger, ICI Physics and Radioisotope Services Group, Risktec and DNV GL He graduated from the University of Reading, United Kingdom, with a B.Sc (Hon) degree in Mechanical Engineering and Mathematics.

Faizal is the first of CGE Risk Management Solutions's partners in the South East Asia region to undergo the Advanced Practitioner level certification, a scheme introduced in early 2020. He is now a proud bearer of the "Advanced Practitioner" badge below.

## FEEDBACKS FROM OUR PAST PARTICIPANTS

"Good to have this training as introduction and familiarization to the risk assessment and bowtie technique."

*QHSE Engineer, Vantage Oilfield Solutions Sdn Bhd*

"A very experience Instructor. Can answer all questions regarding this subject."

*HSE Executive, RUHM Marine Sdn Bhd*

"This training is important thing to identify major accident hazard and can be applied to develop comprehensive risk assessment (Bowtie)"

*Petronas Carigali Muriah Ltd*

"The trainer can relate the materials with our activities hence giving us more enthusiasm."

*Petronas Carigali Muriah Ltd*

## TRAINING DETAILS

Title : Digital Classroom  
Bowtie Barrier-Based Risk Management  
Date : 21 - 24 February 2022  
Time : 9:00 AM – 1:00 PM (GMT +8)  
Apps : Zoom Pro / Microsoft Teams

Individual Price	Grouping Price (min. 3 pax)
RM 1,300.00/pax	RM 1,200.00/pax
Register before <b>8 February 2022</b>	

## PARTICIPANTS

Name : .....  
Job Title : .....  
Telephone : .....  
Email : .....

Name : .....  
Job Title : .....  
Telephone : .....  
Email : .....

Name : .....  
Job Title : .....  
Telephone : .....  
Email : .....

Note : Please attach a list of participants if insufficient space.

## AUTHORISATION

Name : .....  
Job Title : .....  
Telephone : .....  
Email : .....

## ORGANISATION

Name : .....  
Telephone : .....  
Fax : .....

## SEND INVOICE TO

Department : .....  
Address : .....  
.....  
.....


## IN HOUSE TRAINING SOLUTION

Yes, I would like to organise this training course in-house and save up to 50% of total course fees! Please send me more information.

## PAYMENT DETAILS

1. Participants are required to pay before or on the first day of the course.

2. (Please Tick Where Applicable)

- Cheque made payable to Pace Up Sdn. Bhd.
- Credit Card 
- Bank Transfer : Pace Up Sdn. Bhd.  
Sdn. Bhd. Bank : Malayan Banking Bhd.  
Bank Address : Taman Setiawangsa Branch,  
Wisma Prima Peninsular,  
2, Jalan Setiawangsa 11,  
Taman Setiawangsa,  
54200 Kuala Lumpur

Account No. : 562188319491  
Swift Code : MBBEMYKL

(All bank charges to be borne by payer. Please ensure that Pace Up receives the full invoiced amount.)

3. We do not give refunds for cancellations. However, you may substitute participant (s) at any time.
4. If we receive cancellations in writing more than (7) days before the training course, you will receive a 100% credit (valid for one year) to be used for another training course.
5. Cancellations received less than seven days before to the training course may result no credit for future training.
6. If we postpone training course, participant payments for the postponed course will be 100% credited towards the course at a rescheduled date.
7. We shall assume no liability whatsoever in the event this training course is cancelled, rescheduled or postponed.