

# Nautical Institute 2019 AGM conference, in Hong Kong, 13th June 2019

## **SIMULATION TRAINING**

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MARITIME TRAINING CENTRE



# Brief about Anglo-Eastern

- Around 700 ships
- 28000 seafarers
- Crewing Areas – India, Philippines, Eastern Europe, China, Myanmar
- Type of Ships – All except cruise liners



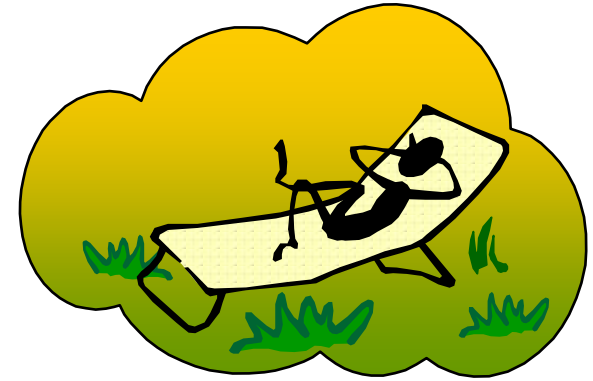
# Sophisticated INS on board and yet she strands - human error accounts for 80% of accidents





# Drawbacks of Automation

- Automation is so efficient and reliable that it can induce complacency
- Monitoring a system that runs almost perfectly is boring
- Such reliability tends to transform active monitoring into passive monitoring
- Officers tend to check that the automation behaves as intended instead of navigating the ship!





# Swedish Club Statistics (2013 – 2017)

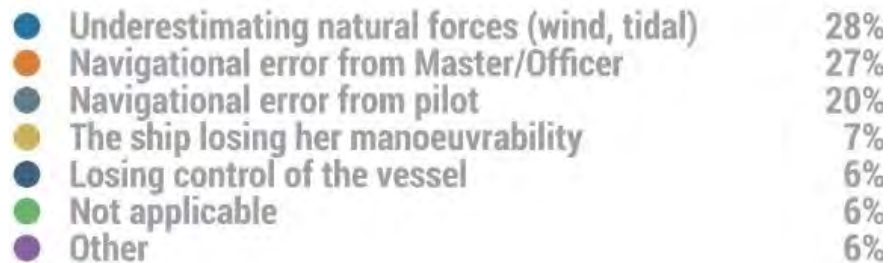
## Most common causes of collision claims



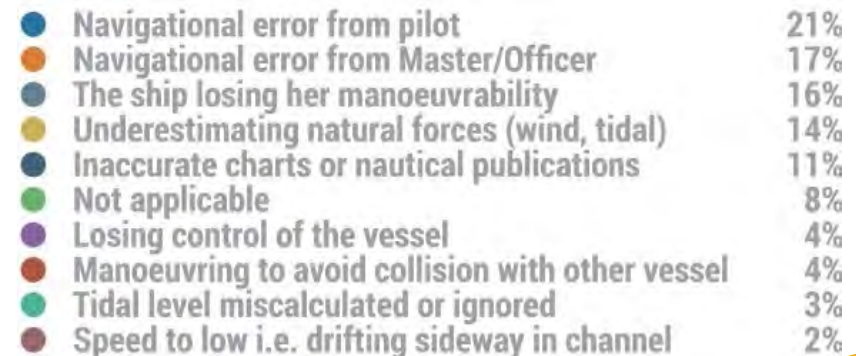
## Collision – vessel location



## Most common causes of contact claims

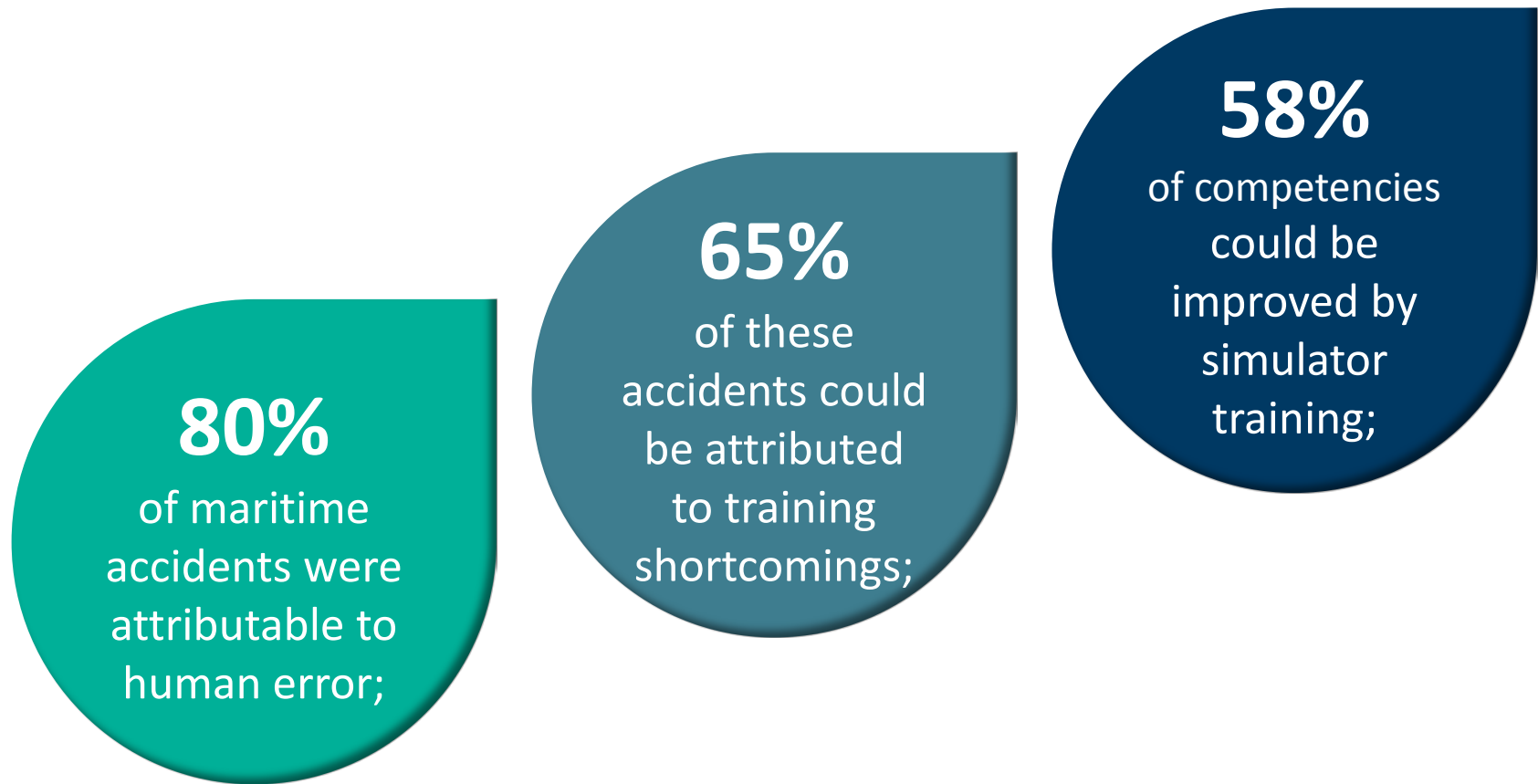


## Most common causes of grounding claims





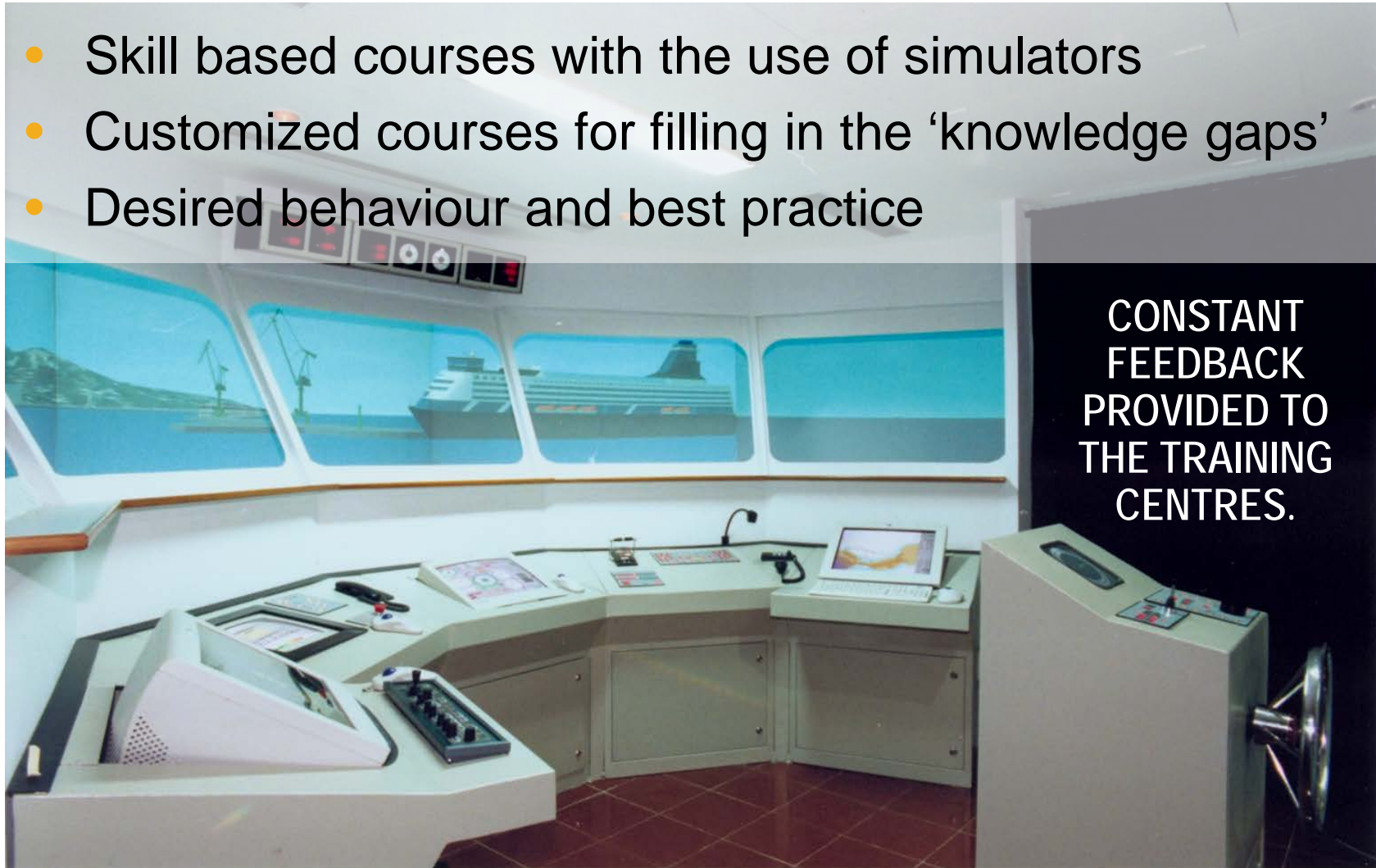
# Study - findings





# AESM training

- Skill based courses with the use of simulators
- Customized courses for filling in the 'knowledge gaps'
- Desired behaviour and best practice



**CONSTANT  
FEEDBACK  
PROVIDED TO  
THE TRAINING  
CENTRES.**



# Specifications of a Simulator

- Depict realism – immersive feeling
- Mathematical modelling – mimic and logic precision
- Fast computation speed
- High degree of fidelity
- Large library of areas and ship models
- Robust





# Simulation Training Factors

- Ship's motion
- Visual information
- Audio information
- Handling information and processing it
- Ship Handling
- Handling instruments
- Teamwork
- Leadership and Decision making

# NAVIGATION SIMULATOR

**THREE BRIDGES with 360° VISUALISATION**

Training on simulators must be mandatory and repeated every 5 years.

- **Bridge Team Management Level 1, 2, 3**
- **Ice Navigation / Polar Navigation**
- **Large Vessel Handling**
- **Ship to Ship Transfer**
- **Navigation Skills Assessment Program (NSAP)**

1895 Officers underwent simulator training in 2018



# Navigation Command Assessment

Candidate assessed on Navigational proficiency and Leadership for taking over Command of a ship.

Assessment Report by AEMTC Faculty and psychologist.

Exercises conducted on a 360° Full mission simulator.

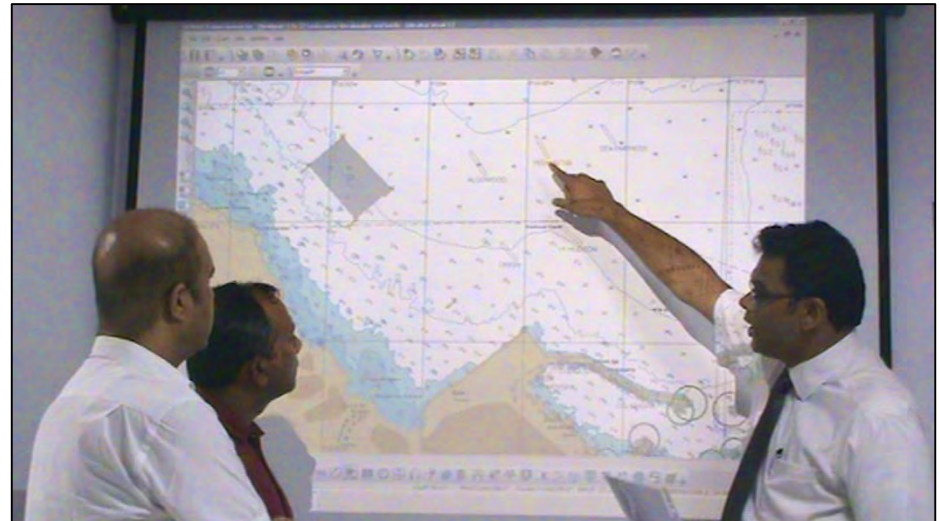
1. Approaching Straits from the West and transit TSS, in traffic and moderate visibility
2. Approach to anchorage and anchoring at designated anchorage.
3. Transiting TSS west to east with traffic. Crossing TSS to Boarding ground pilot station
4. Pick up Pilot and enter port channel, Current 2 kts.
5. Approaching port – in darkness hours.

For each exercises the bridge team consisted of Master, OOW and helmsman.



# Stage 1 : Planning

- Appraisal
- Planning Route on ECDIS
- ECDIS Safety Settings
- Markings on the Chart
- Calculating UKC



**Introduction of Exercise by Instructor**



## Stage 2 : Briefing

- Bridge Team Roles
- Master, OOW, Helmsman, Pilot
- Master Conducts the Briefing



**Briefing by Master to Bridge Team**

## Observations

- Is the Briefing Crisp and Clear
- Are the likely dangers along the Route discussed
- Were there any Challenges from the team, were challenges invited
- Was the wind / Current, approach speed discussed.



# Stage 3 : Set the Bridge

The Bridge Team is given exactly 15 minutes to set the Instruments

- ECDIS – Safety settings
- Radar – Range, motion, vectors, off-center, EBL
- AIS – Dynamic information
- Echo Sounder – Shallow water depth alarm
- GPS – Alarms



**Set the Bridge**



# Peer Review

‘Peer Monitor’, is a team member who is a fly on the wall, listening and observing and making notes using the Peer Monitor Evaluation Sheet, on both Technical factors and Behavioural factors.





# Stage 4 : Execute the Passage



**Underway**



**Entering breakwater countering current**



**Outward bound vessel passes clear**

**Behavioural markers**

**Technical and Behavioural Markers**





# Stage 5 : Pilot On Board



**Pilot boat approaching**



**MPX - Pilot card**



**MPX - Pilot briefing on the manoeuvre**



# Failures and Distractions



**Emergency - fire**



**Distractor - call from agent**



# Assessment



**Assessor discussing with Operator**

**PARTICIPANT'S  
ASSESSMENT FORM**



**Assessor marking the scores**



# Stage 6 : Debriefing

## Debriefing by the Assessor

- Let the peer monitor speak first
- Allow the bridge team members to comment on the exercise and their performance
- The assessor provides his feedback / comments.
- Summarise the Learning points from this exercise
- What can be done better ?
- What can you take back to the field?



**Debriefing by Assessor**

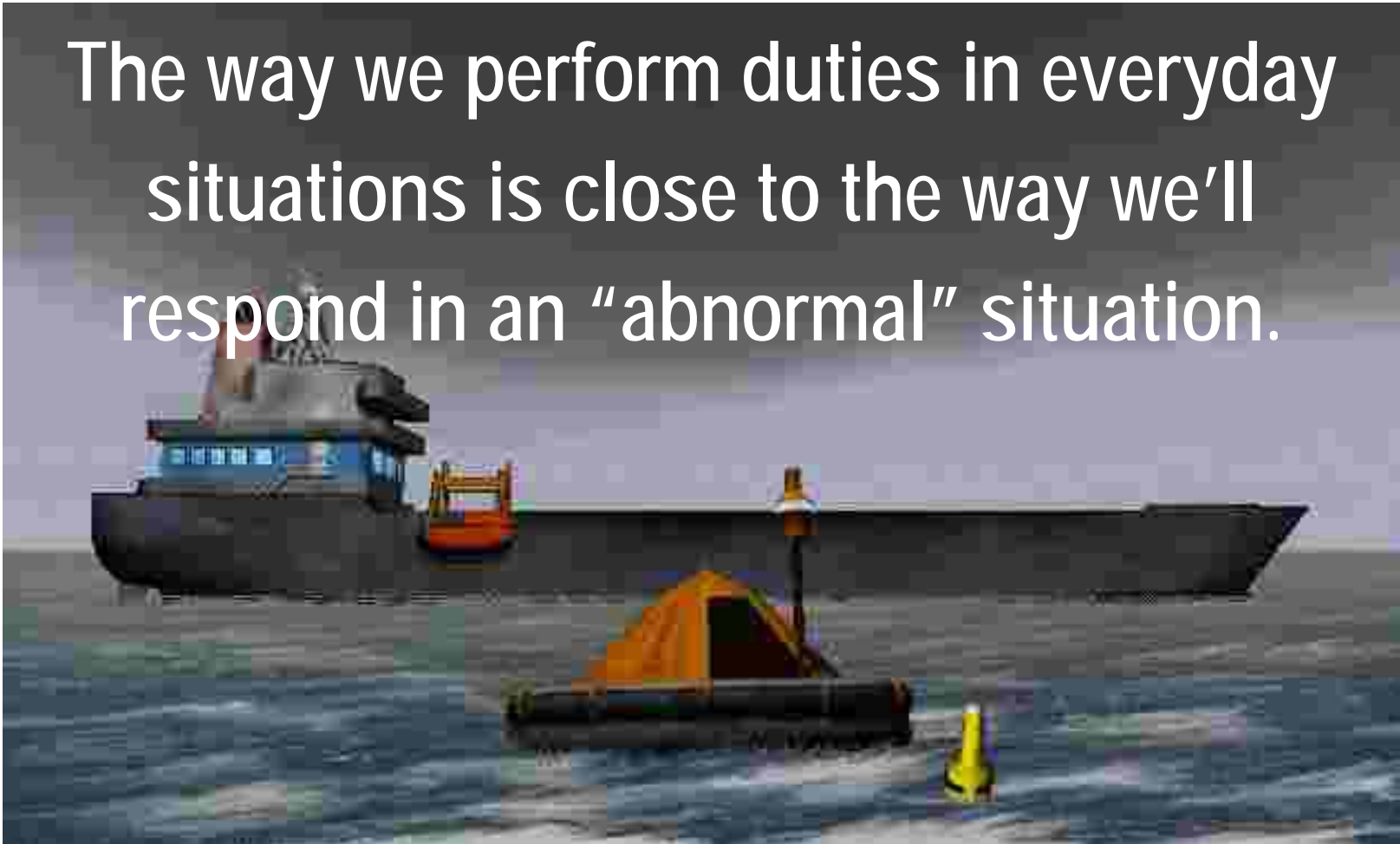


**Debriefing by Assessor**



# As we train so shall we respond

The way we perform duties in everyday situations is close to the way we'll respond in an "abnormal" situation.





# Thank you