



port and terminals:  
anticipating risks and  
creating safety agile  
workplaces

**ABTO Webinar**

12 October 2022 (virtual)

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**BULK TERMINALS RIGA 2022**

REGISTRATION AND DETAILS  **CLICK HERE**

**ASSOCIATION OF BULK TERMINAL OPERATORS (ABTO)**  
11-12 OCTOBER 2022

# Agenda

- introduction to ICHCA
- anticipating risks – learning from fatalities and incidents
- five factors for designing a safe workplace





# introduction to ICHCA





anticipating  
risks:

learning from  
incidents



LF/HC

Asphyxiation/Confined Spaces

Caught between objects

Crush (e.g. by cargo)

HF/LC

Driving related - collisions

Electricity/electrical discharge

Explosion

Fall from Height

Fire

HF/LC

Handling, lifting or carrying

LF/HC

Hit by moving vehicle

Hit by moving, flying/falling object

Hit fixed or stationary object

Moving machinery/material

Physically assaulted by a person

HF/LC

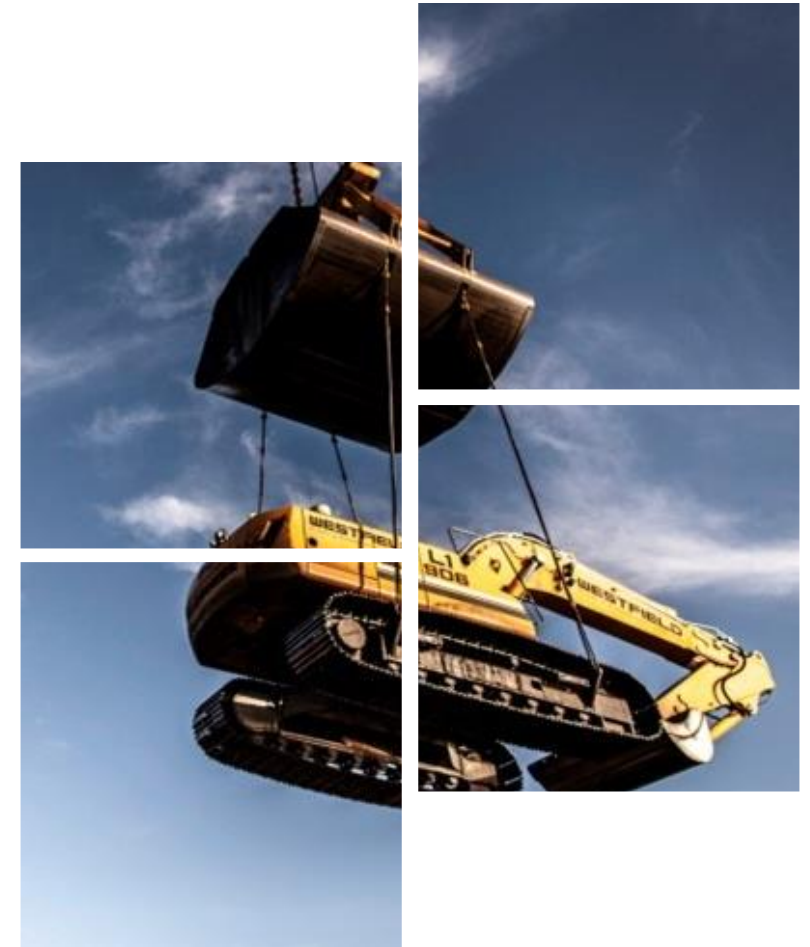
Slips, trips, falls on level

Toxic Exposure

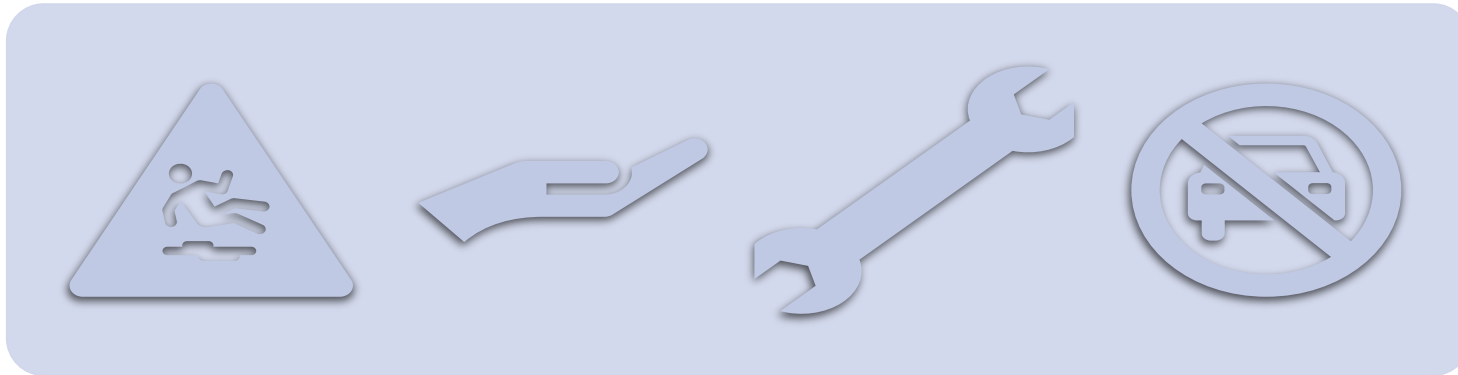
Trapped by something collapsing

LF/HC

Water/Drowning



# higher frequency/lower impact incidents

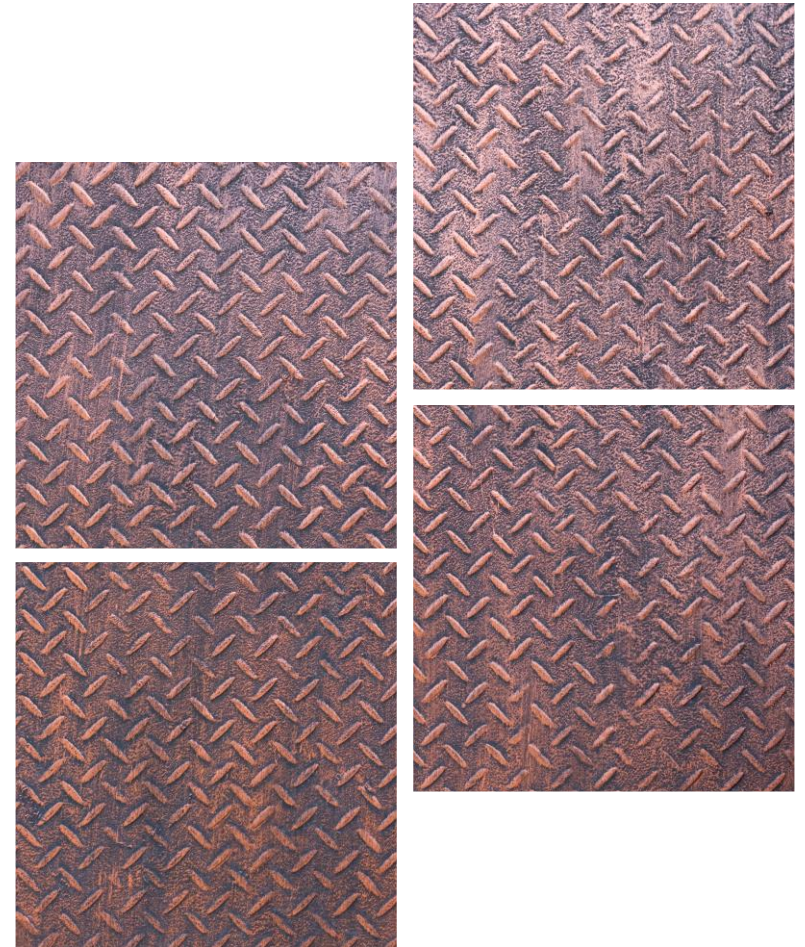


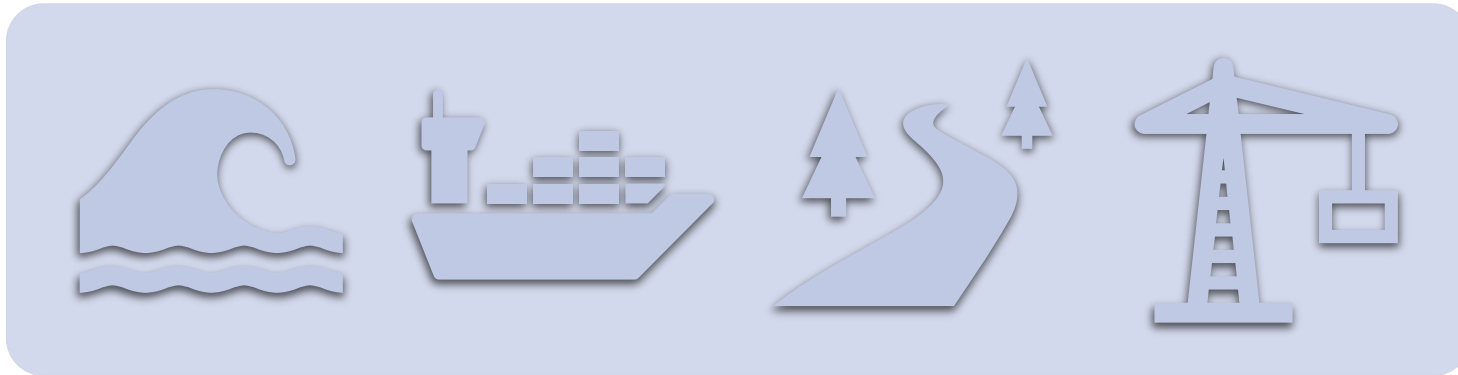
slip, trip,  
fall  
24%  
(44.55%)

lifting,  
carrying  
15%  
(8.12%)

hit by  
object  
11%  
(15.45%)

driving  
related  
10%



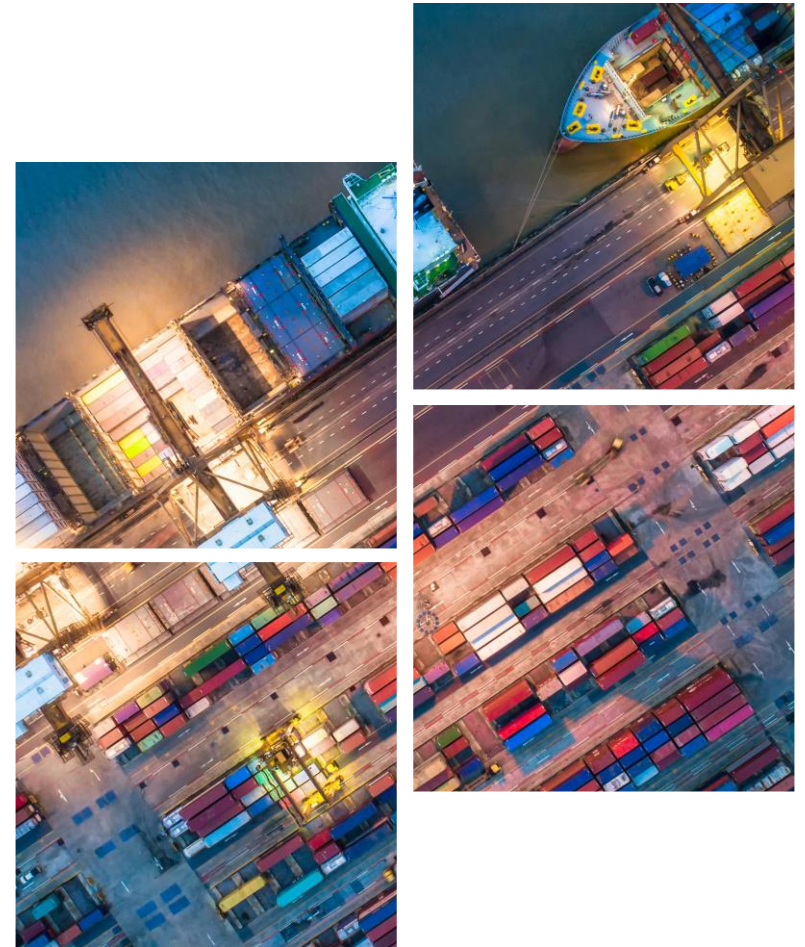


quay/  
berth  
  
20%

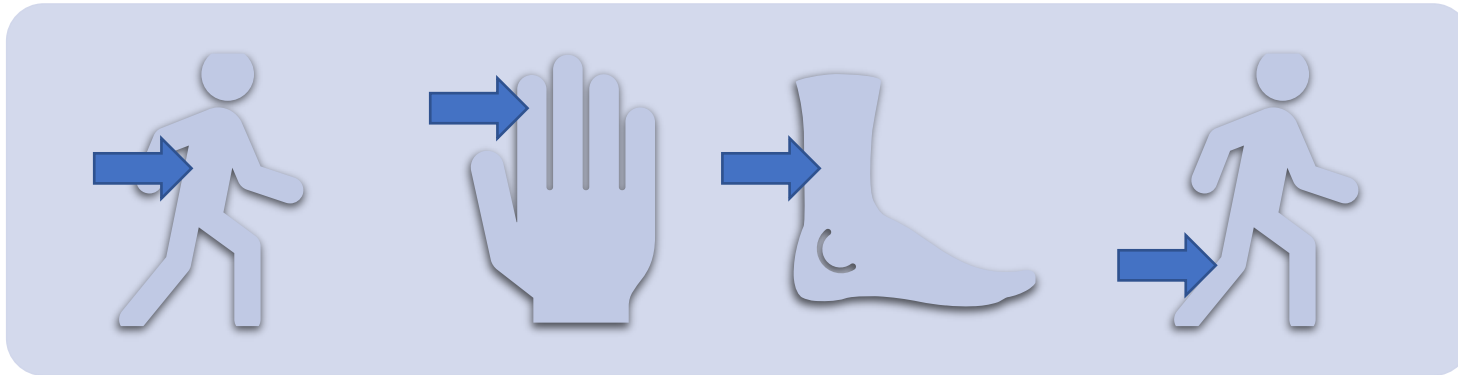
container  
vessel  
  
15%

terminal  
road  
  
11%

cargo  
equipt  
  
10%







back  
17%

fingers  
11%

ankle  
9%

legs  
7%





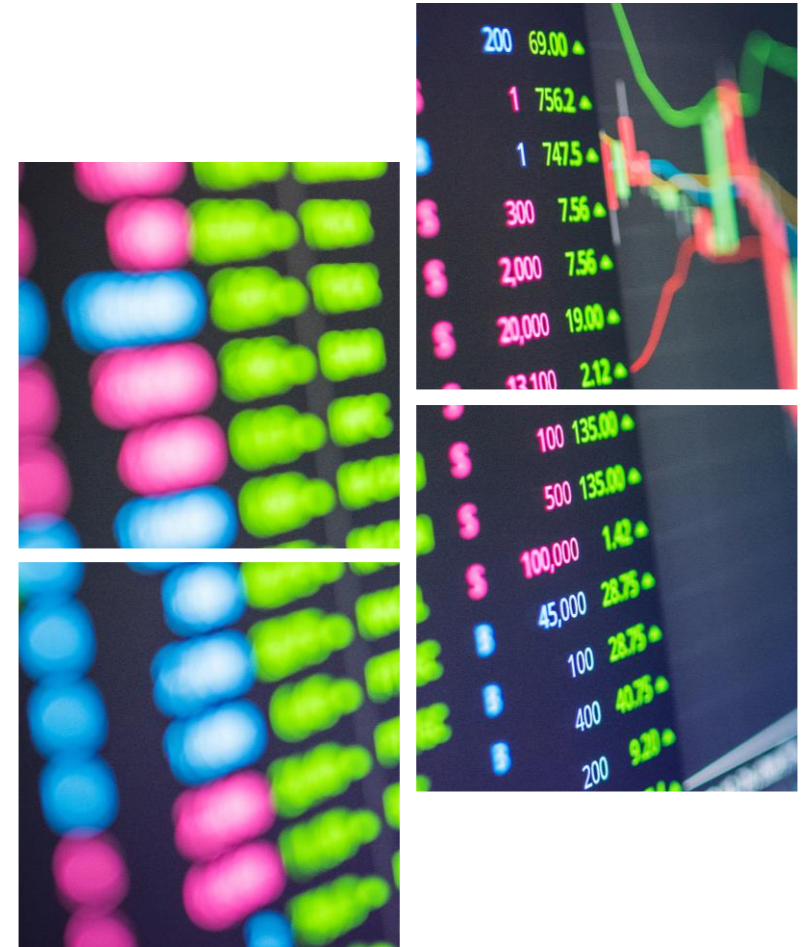
anticipating  
risks:

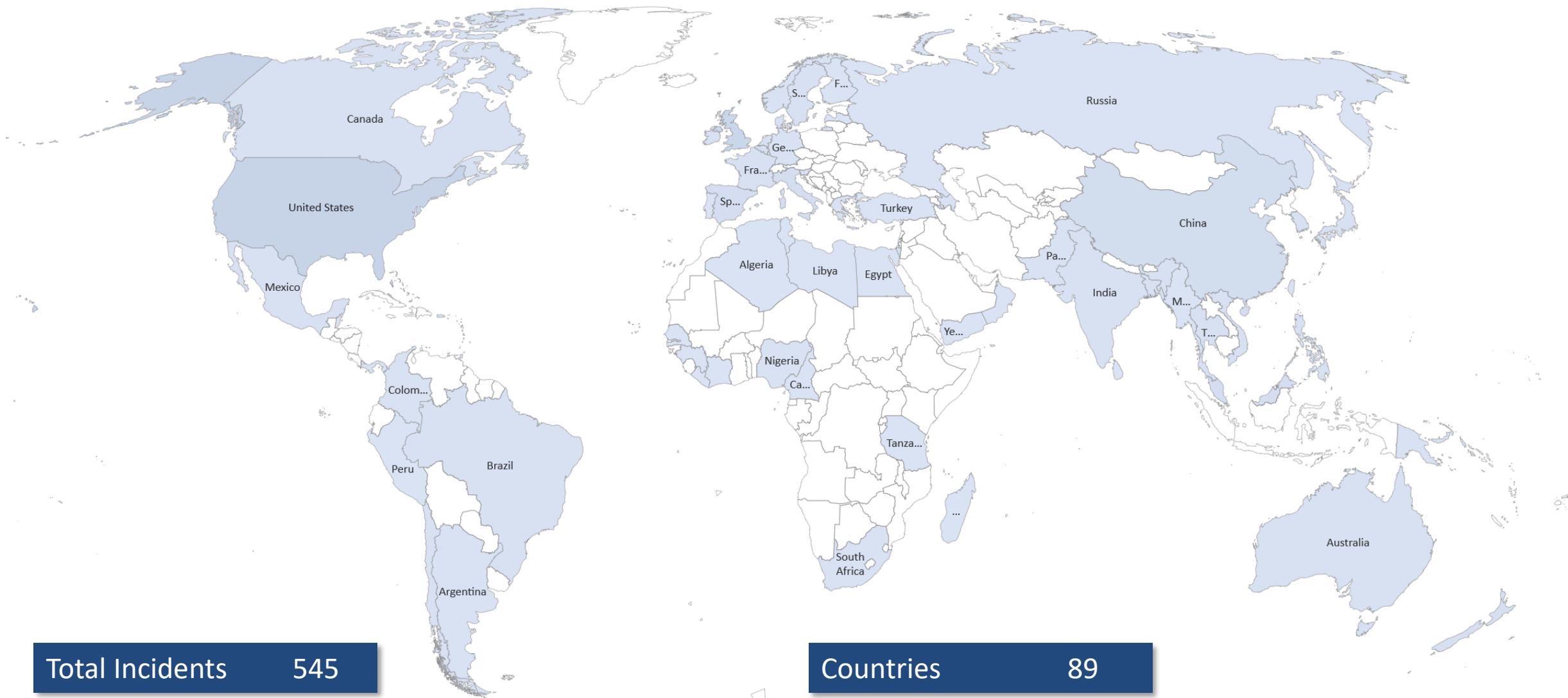
learning from  
fatalities



Antiles and Barbados  
Australia ATSB  
Blueoceana  
Chile  
Container News  
Cyprus  
Denmark  
Germany  
Hong Kong MAIB  
HSE  
IOM  
Latvia  
Liberia  
MAI Hong Kong  
MAIB  
Malta

MCIB  
Nautical institute  
Netherlands  
NOR NMD  
Norway AIBN  
RMI  
SAMSA  
Ships and Ports  
Sweden  
The Sweedish Club  
Transport Malta Marine  
Safety Investigation  
Unit  
UK MAIB  
US Coast guard  
Vanuatu



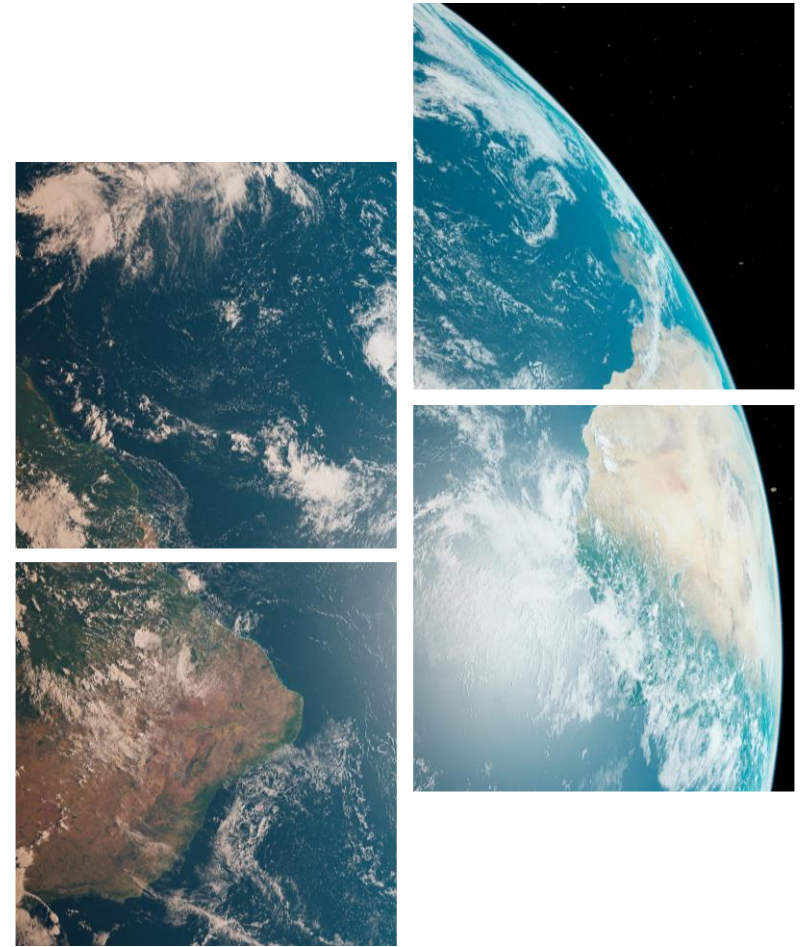


Total Incidents 545

Total Fatalities 720



Total Injuries 230





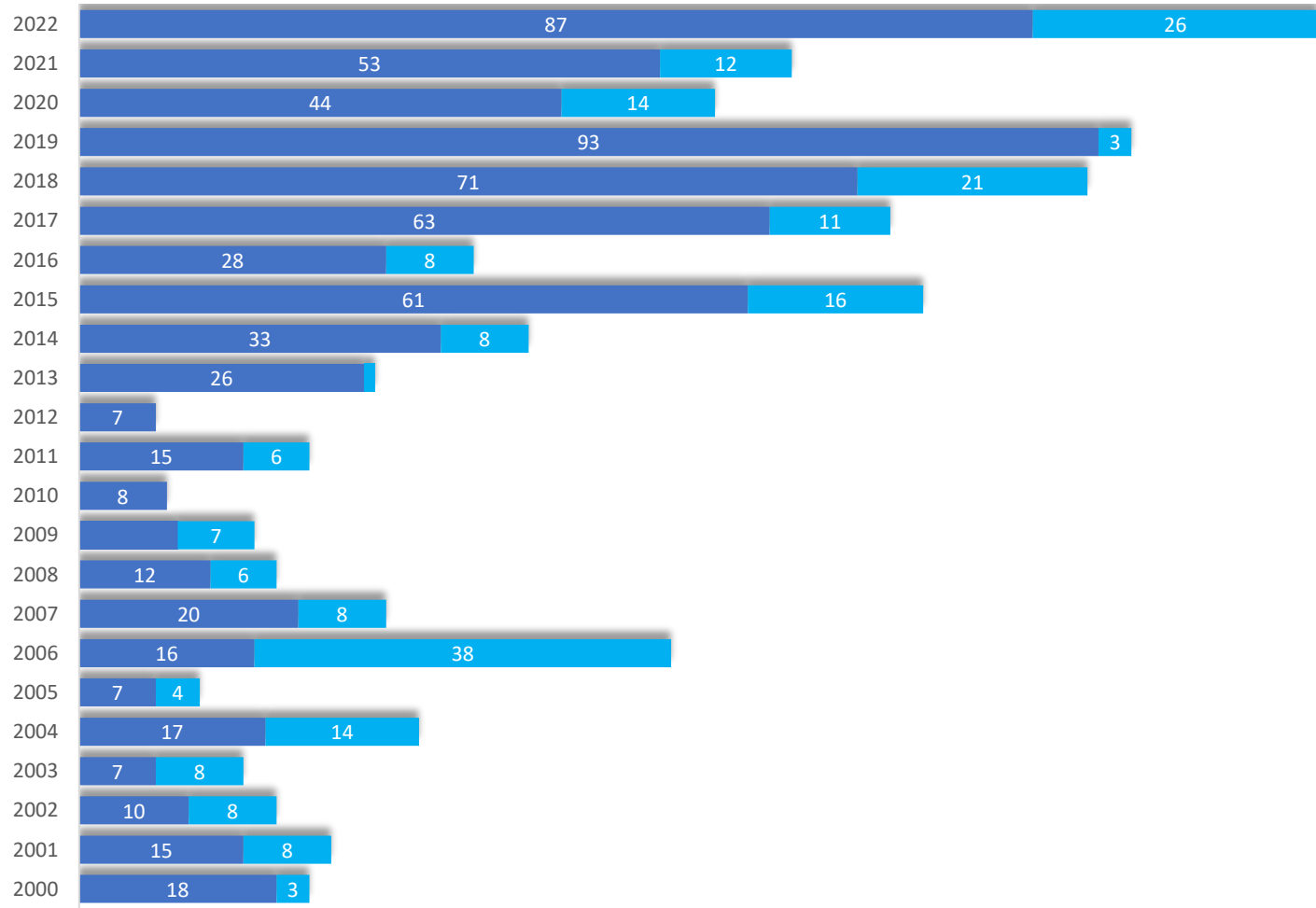
- some countries make more info public
- different population sizes
- different numbers and scales of ports
- press releases vs investigation reports
- some data targeted e.g. asphyxia
- choices – vehicle hits a stack which falls on a person is it vehicle strike, crush or struck?

*absence of evidence is NOT evidence of absence*

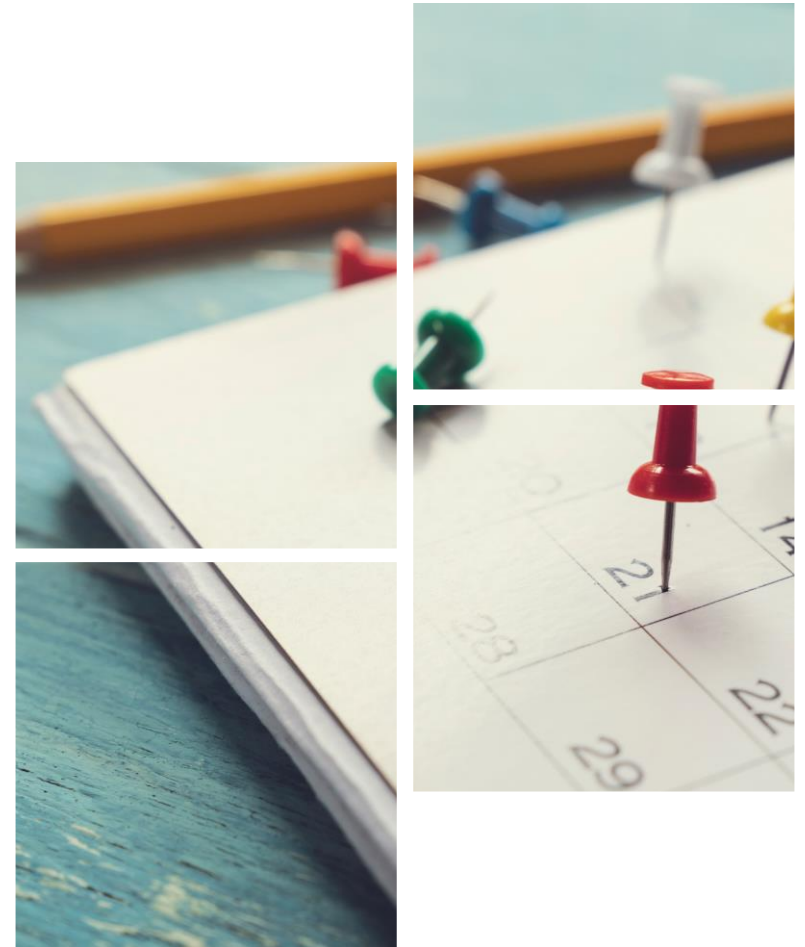


Real Total

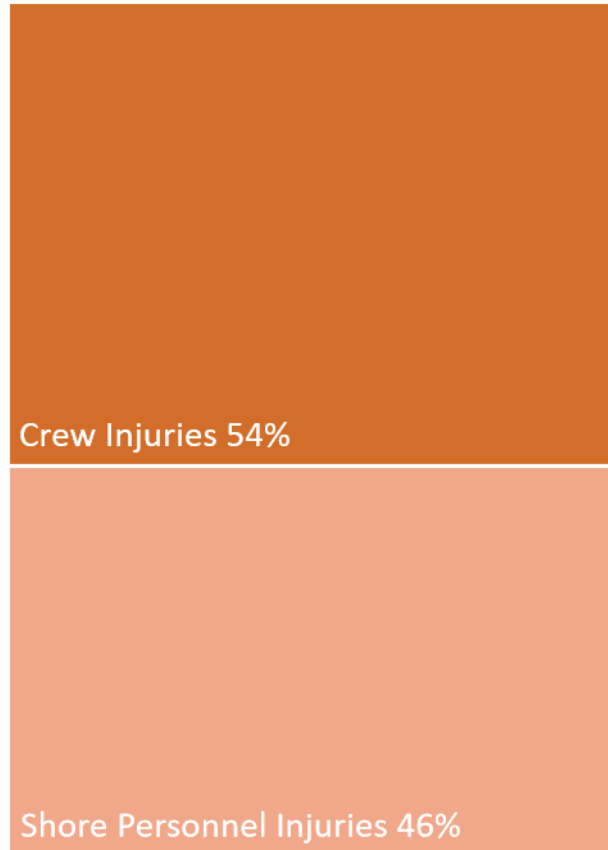
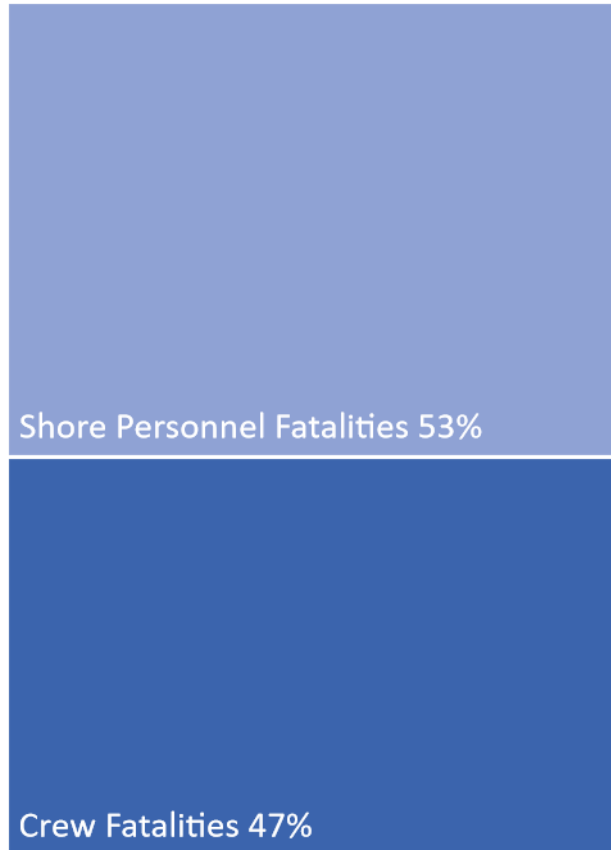
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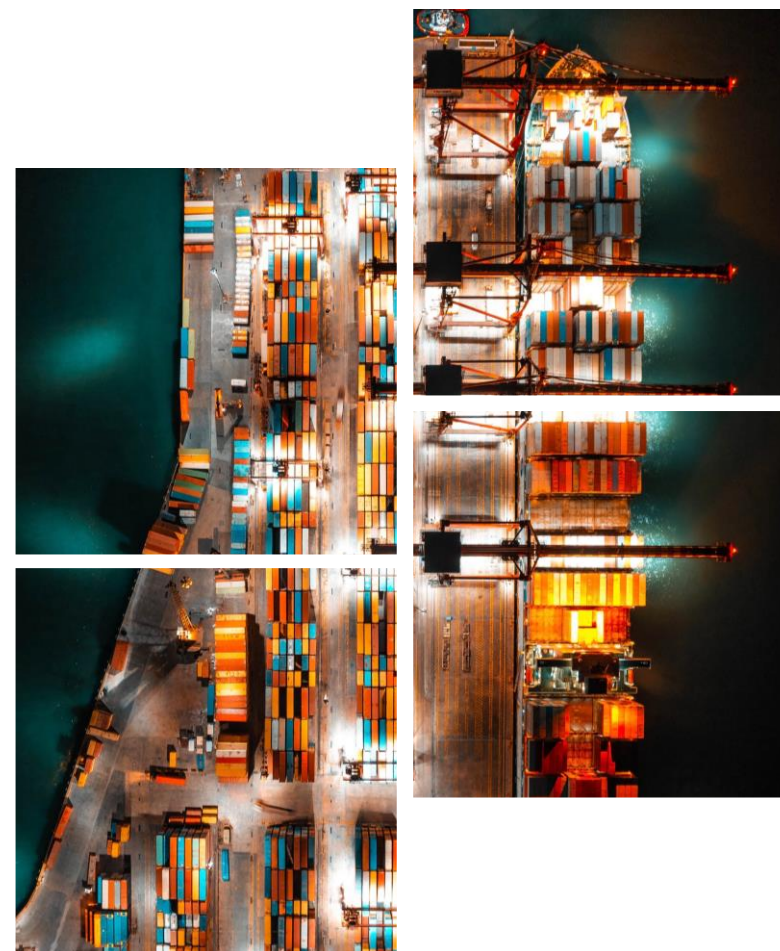
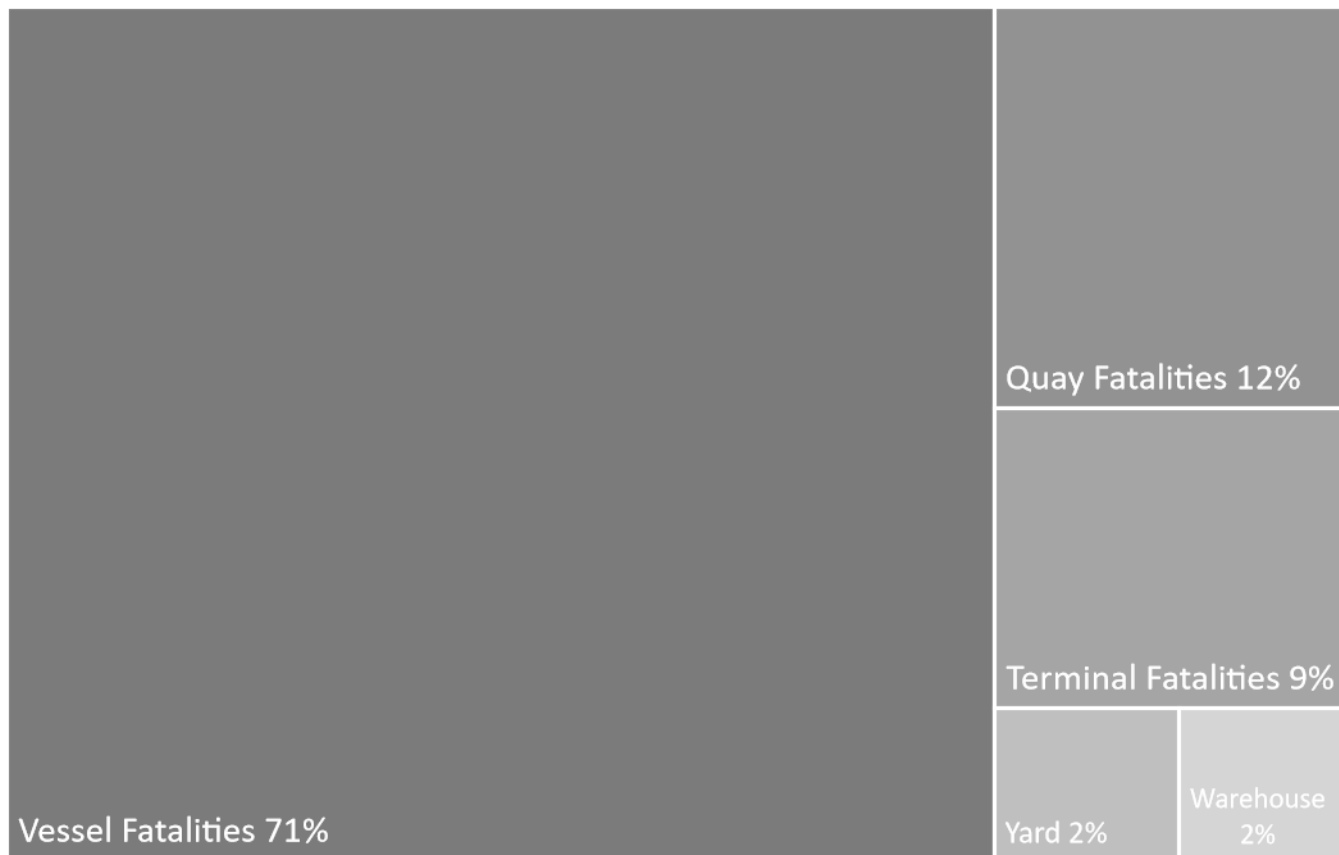


■ Total Fatalities ■ Total Injuries

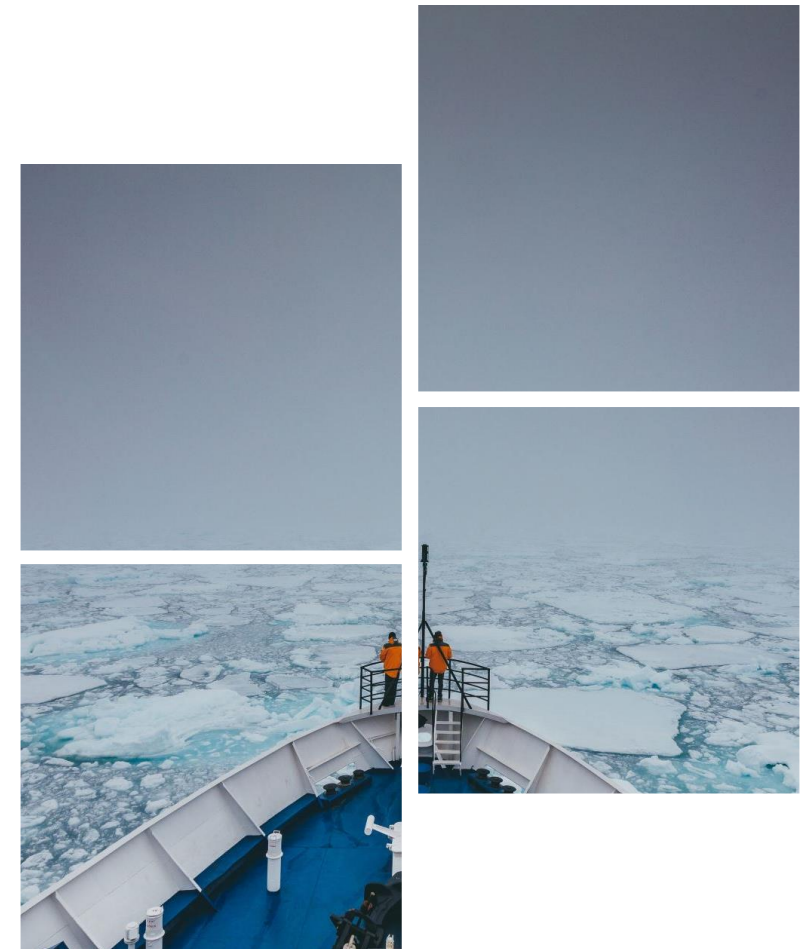
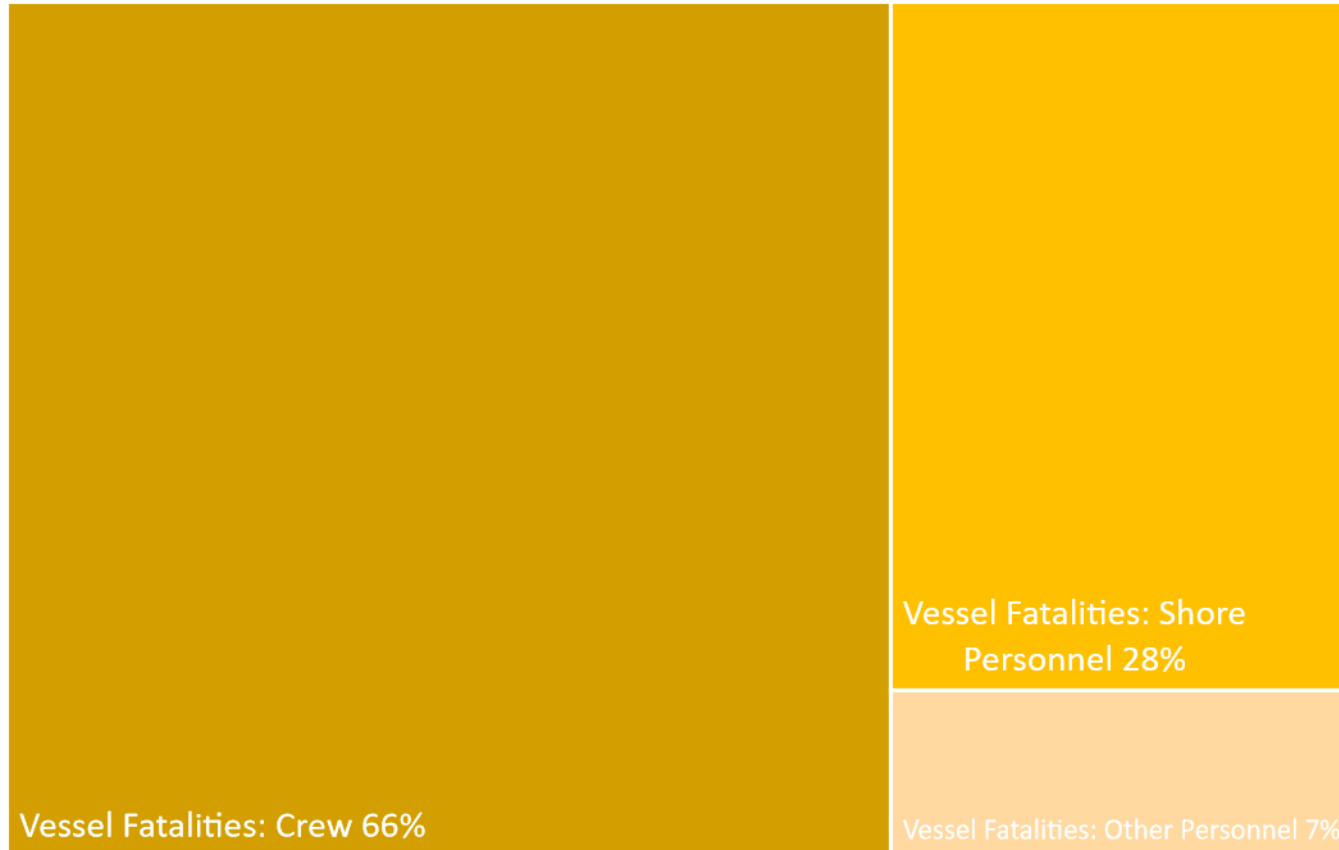


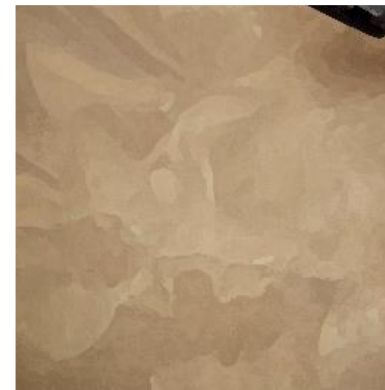
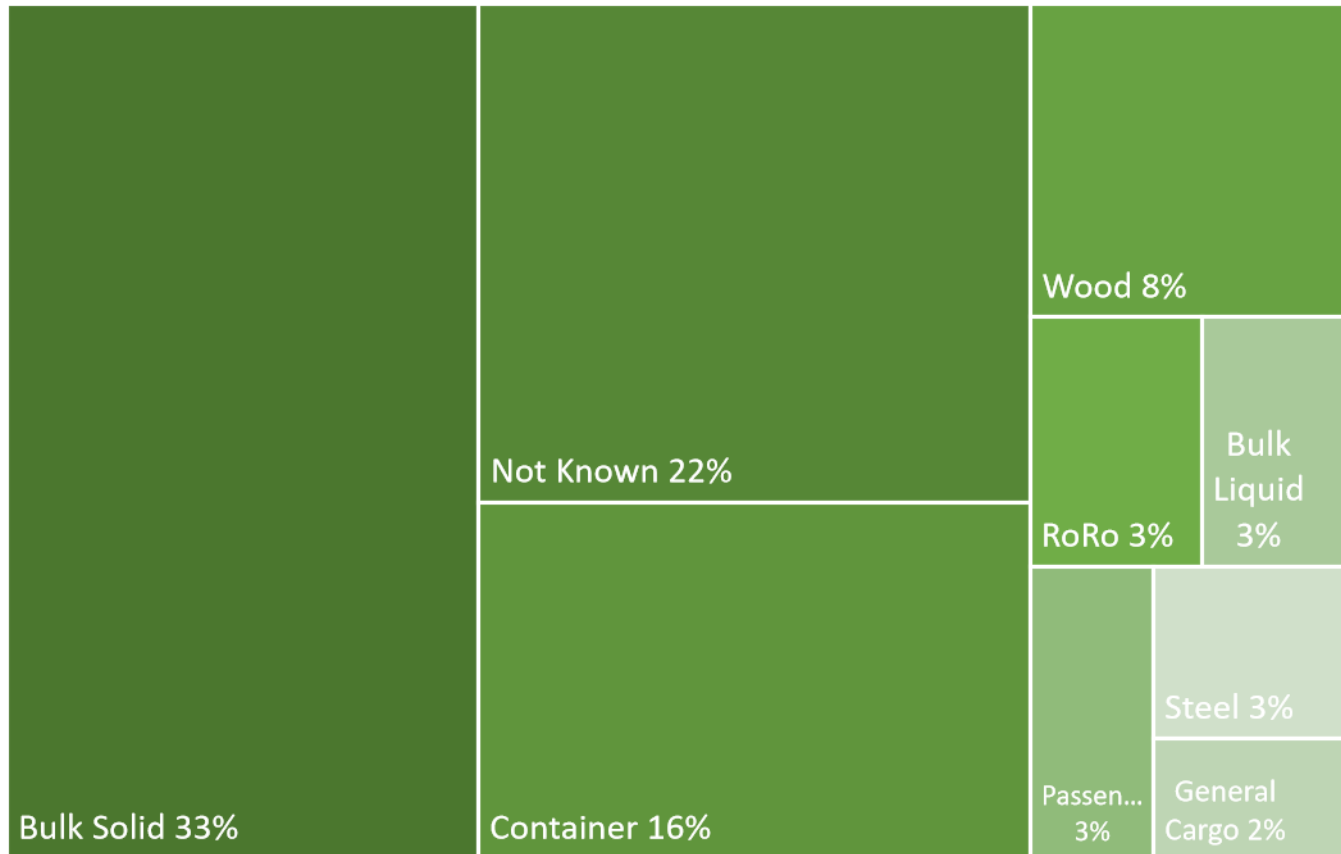


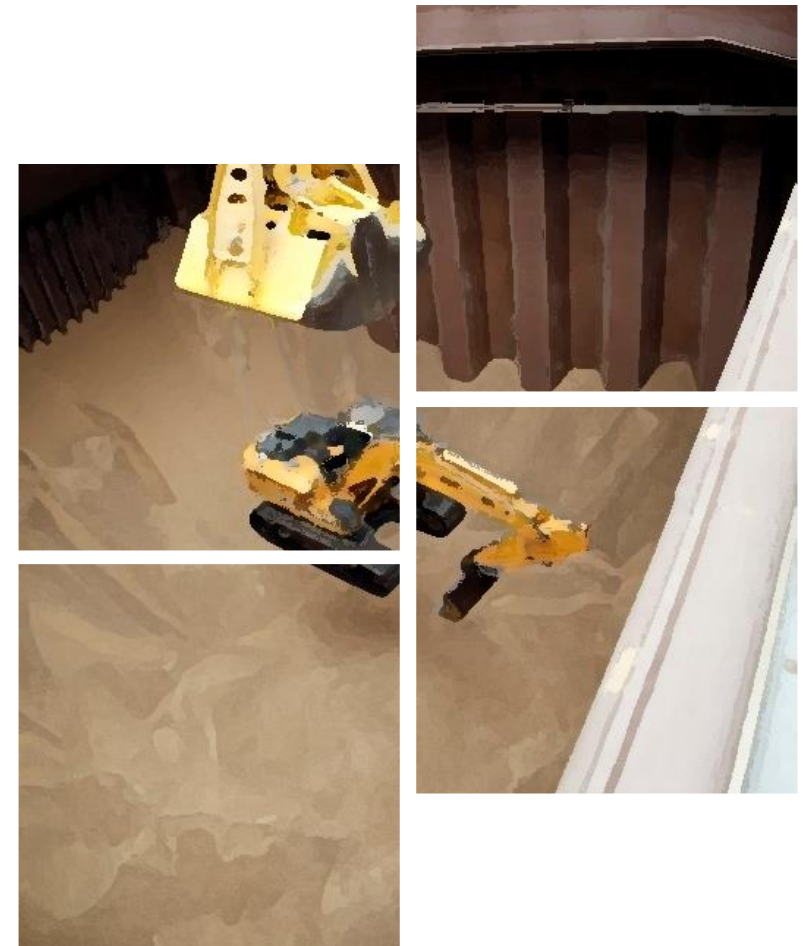
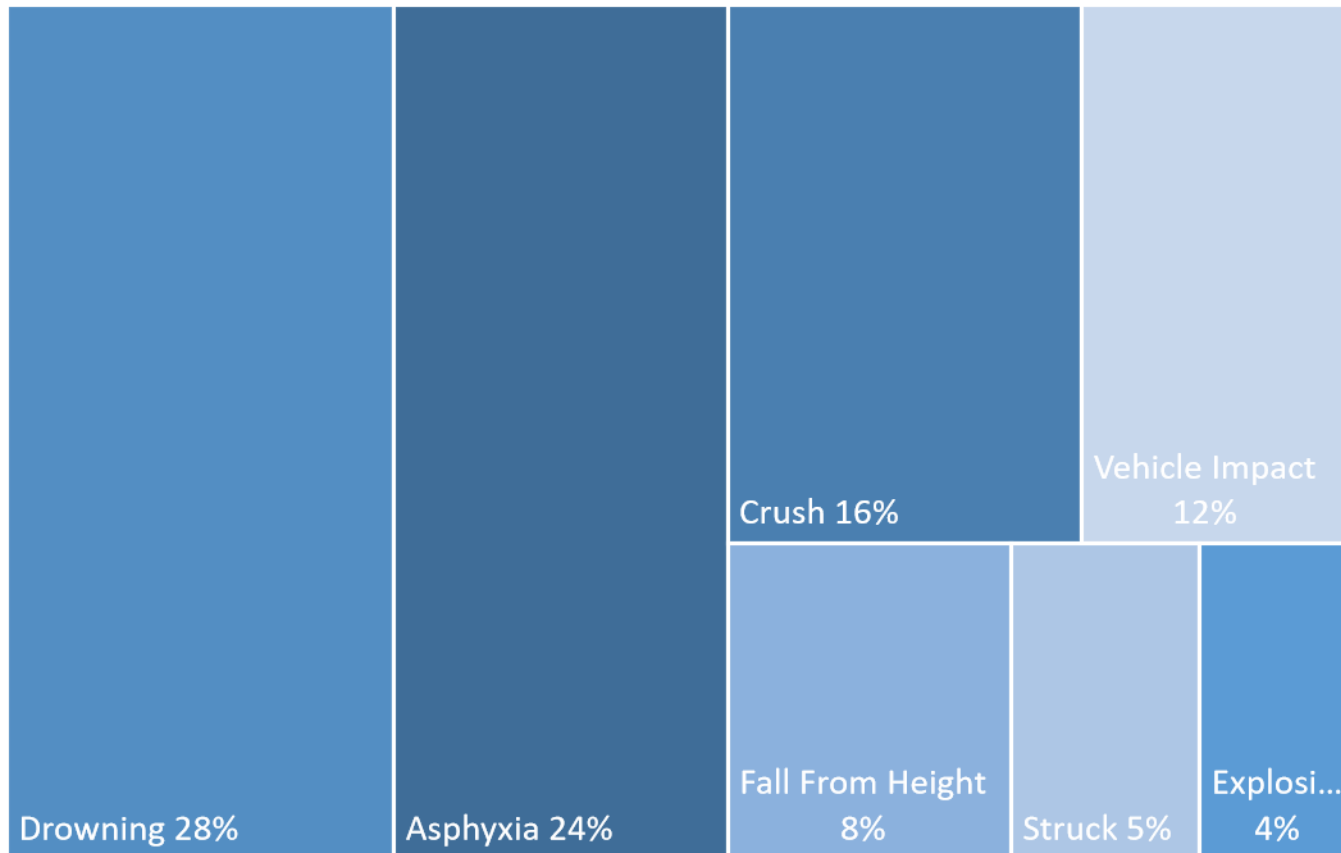


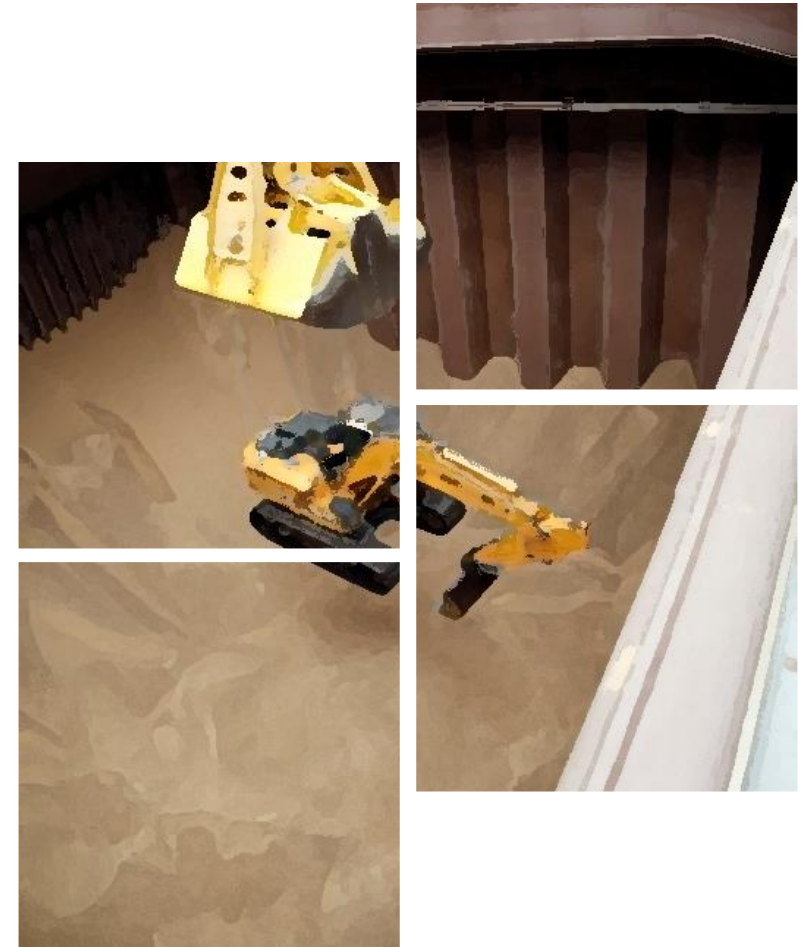
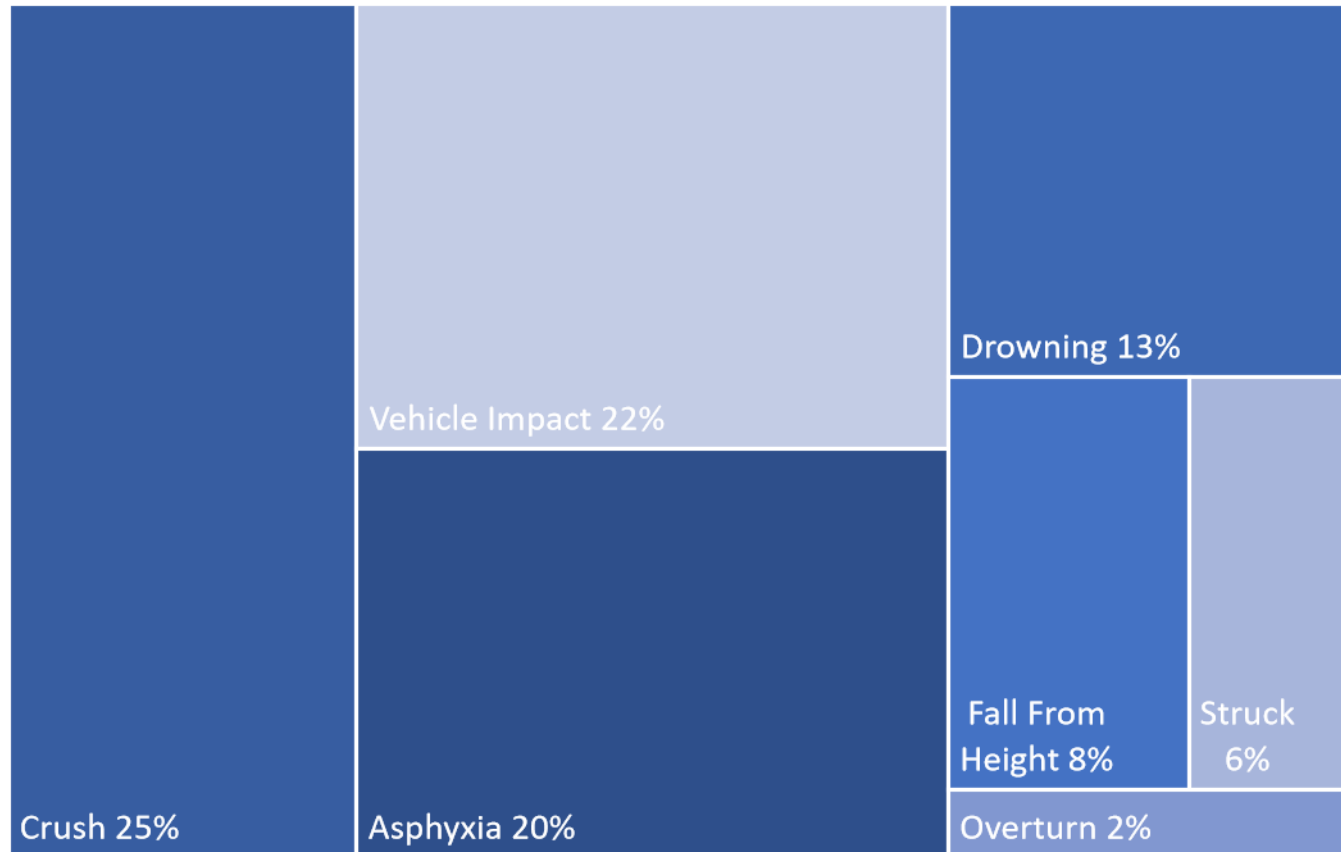


# vessel fatalities distribution









high frequency/ lower severity

slip, trip, fall

lifting, carrying

hit by object

driving related

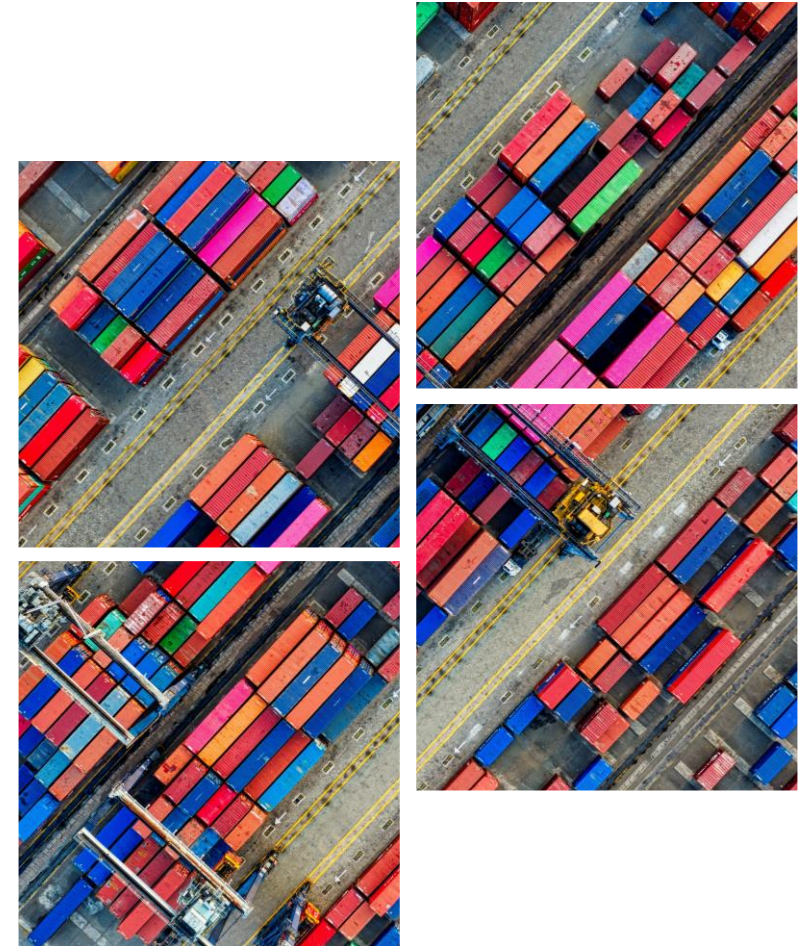
low frequency/high severity

drowning

asphyxia

crush

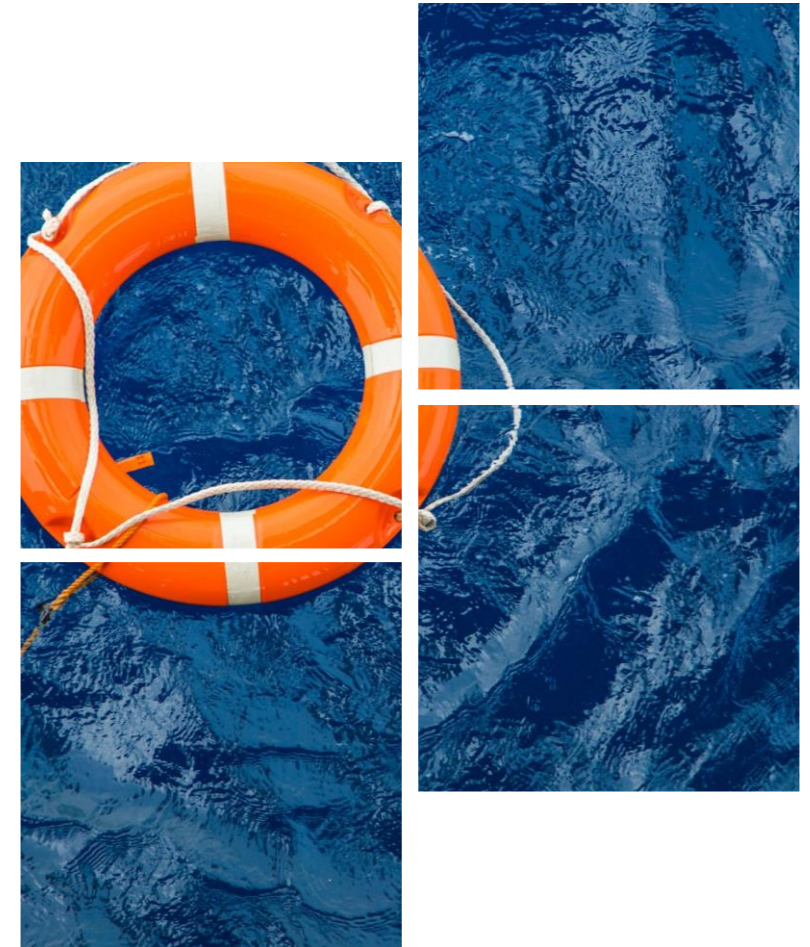
vehicle impact



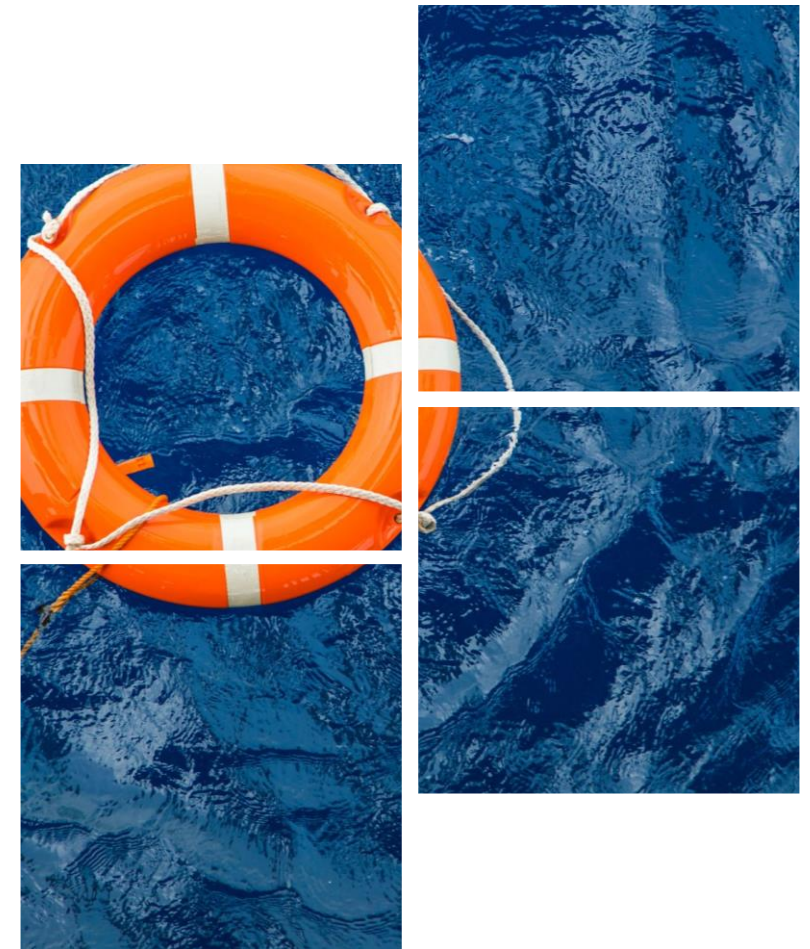


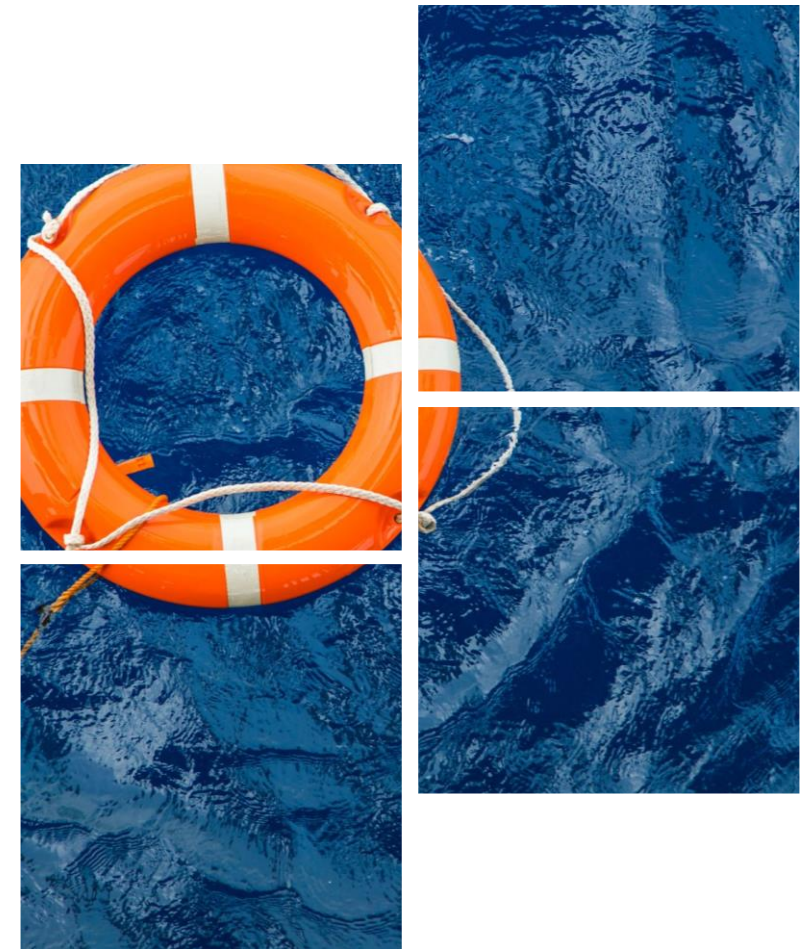
# five factors for designing a safe workplace



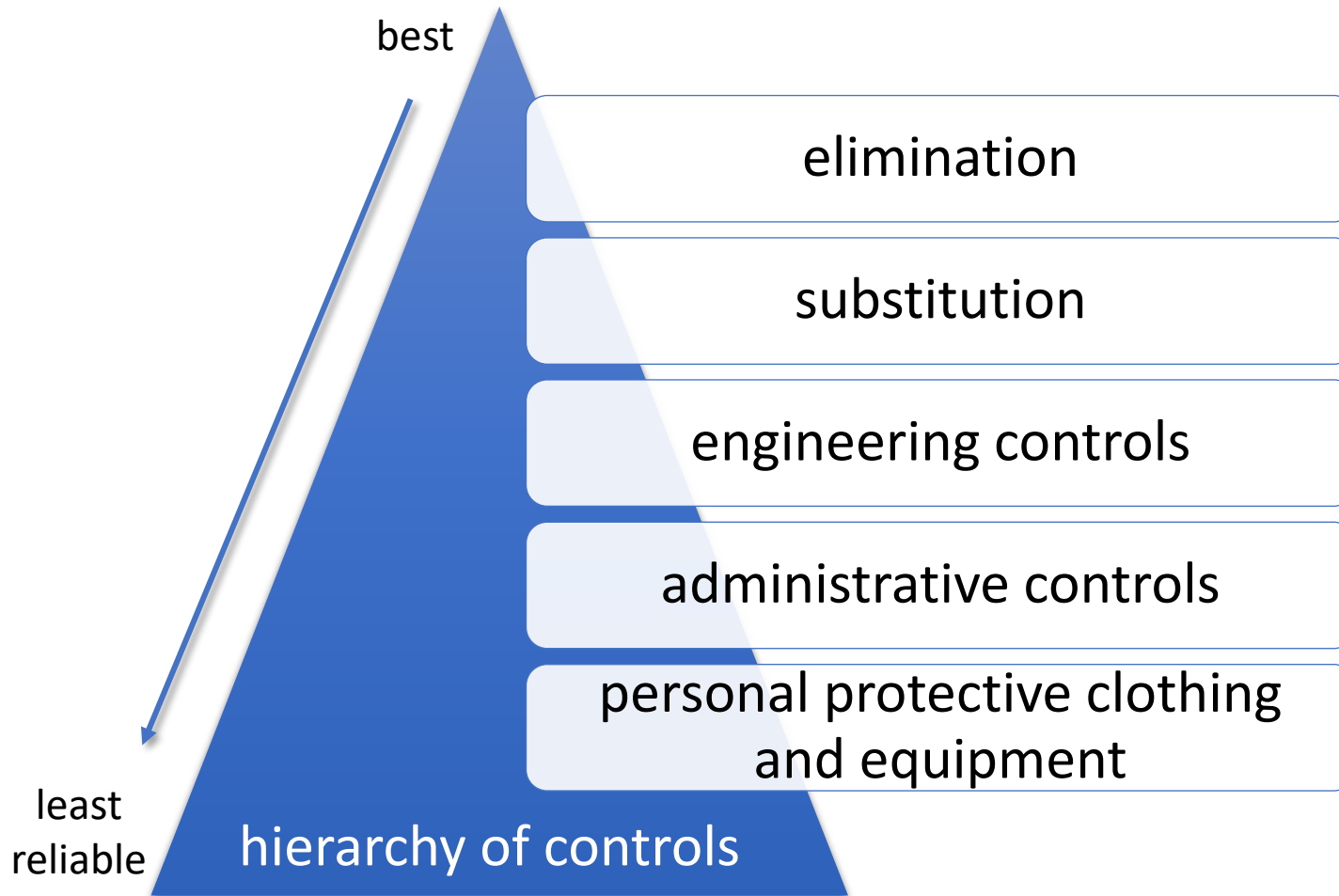




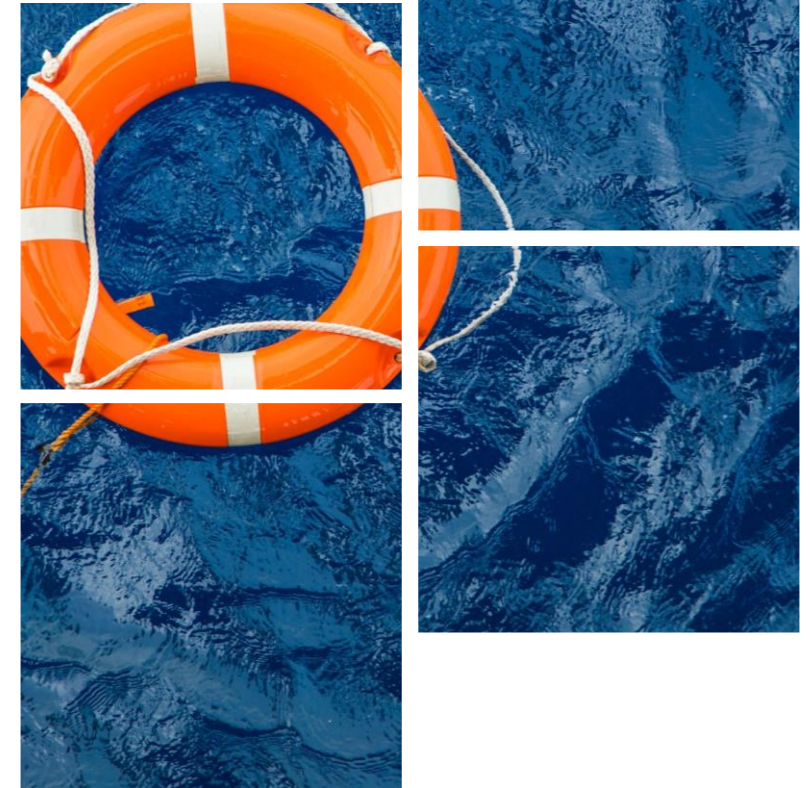








site design	vehicle-person segregation	plant/equipment	zoning
ship/shore information exchange	vessel access/safety	planning (un)load, lift	consult, coordinate, cooperate
competent persons	work at height	pre-use checking	inspect maintain
spill/emergency	safety equipment	lighting	comms
regulations, procedures, codes	storage	dangerous goods	cargo inspection





induction	emergency	assessment
records	periodic reassessment	refresher training
competence	development	growth





Safety

definition of safety

principle

view of human factors

Negative Focus

as few things as possible go wrong

Reactive, respond when something happens or is an unacceptable risk

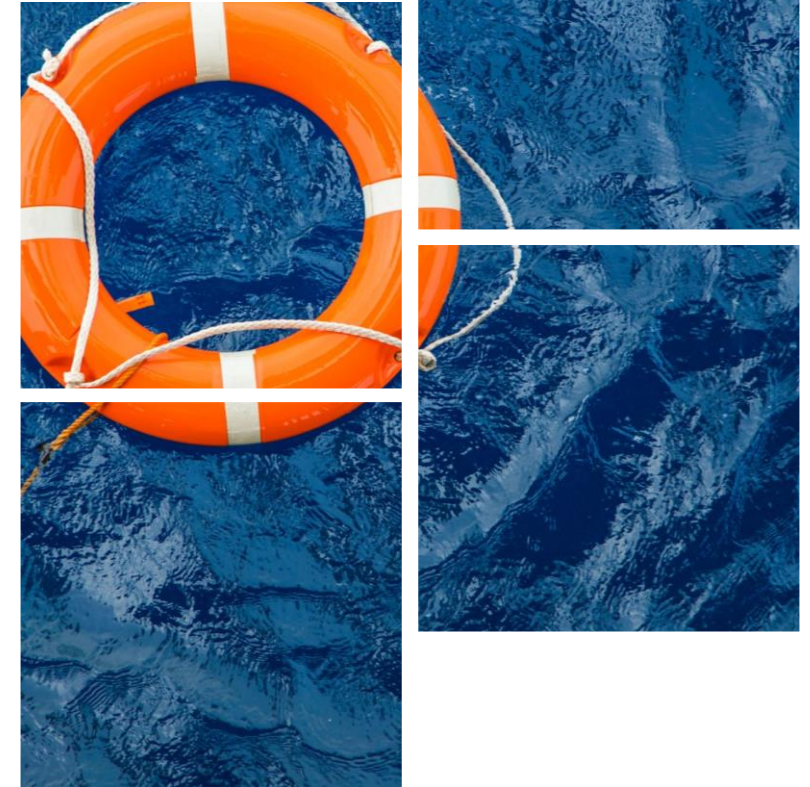
Humans are mainly seen as a liability or hazard. A problem to be fixed

Positive Focus

That as many things as possible go right

Proactive, continuously trying to anticipate events and developments

Resource necessary for system flexibility and resilience. Problem solvers



Human Factors and  
Behaviour

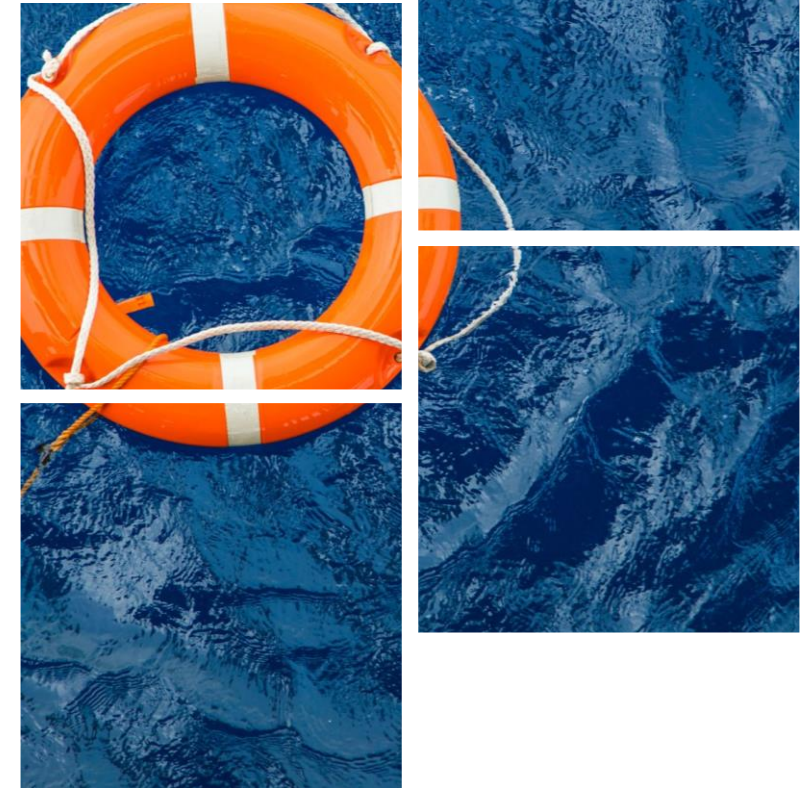
Culture Climate Tools

Leading Indicators

Environment that  
promotes safety-  
positive behaviours

Empowerment -  
everyone a safety  
leader

**LEADERSHIP** “the things  
that you walk past are  
the standards you set”



- Occupational lung disease
  - 12,000 deaths/year estimated to linked to past exposures at work
- Musculoskeletal disorders –
  - 470,000 cases
  - 1,420 per 100, 000 workers
  - 28% of all working days lost due to ill health



- Mental Ill Health
  - 822,000 workers suffering work-related stress/depression/anxiety
  - 2,480 per 100,000 workers
  - stress/depression/anxiety = 50% of all work-related ill health





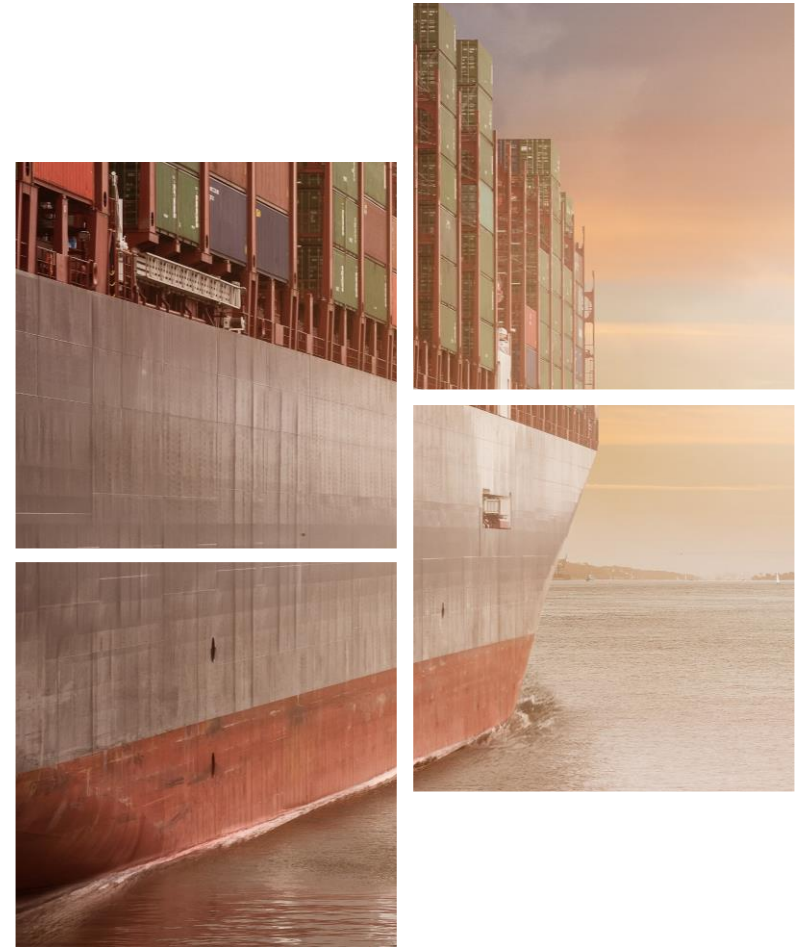
# Summary

we are more effective working together

cargo handling **thought leadership**

address today's problems, but also  
look at tomorrow's challenges

continuously raising standards



## OUR FOCUS

**safe people**  
**safe cargoes**  
**safe ports**



high frequency/ lower severity

slip, trip, fall

lifting, carrying

hit by object

driving related

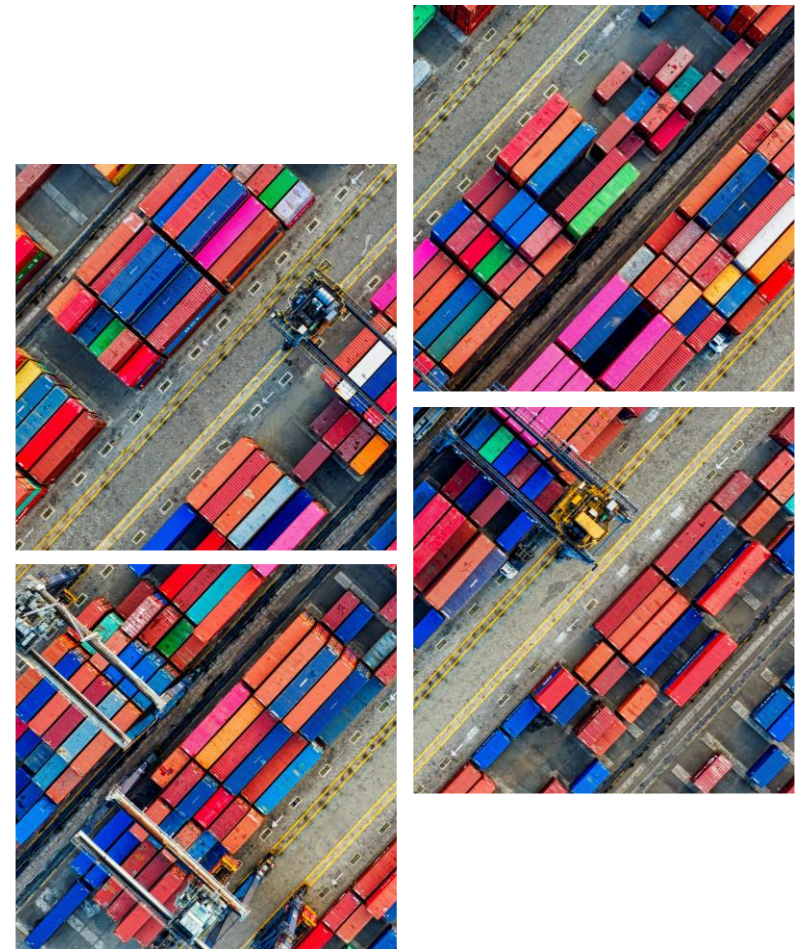
low frequency/high severity

drowning

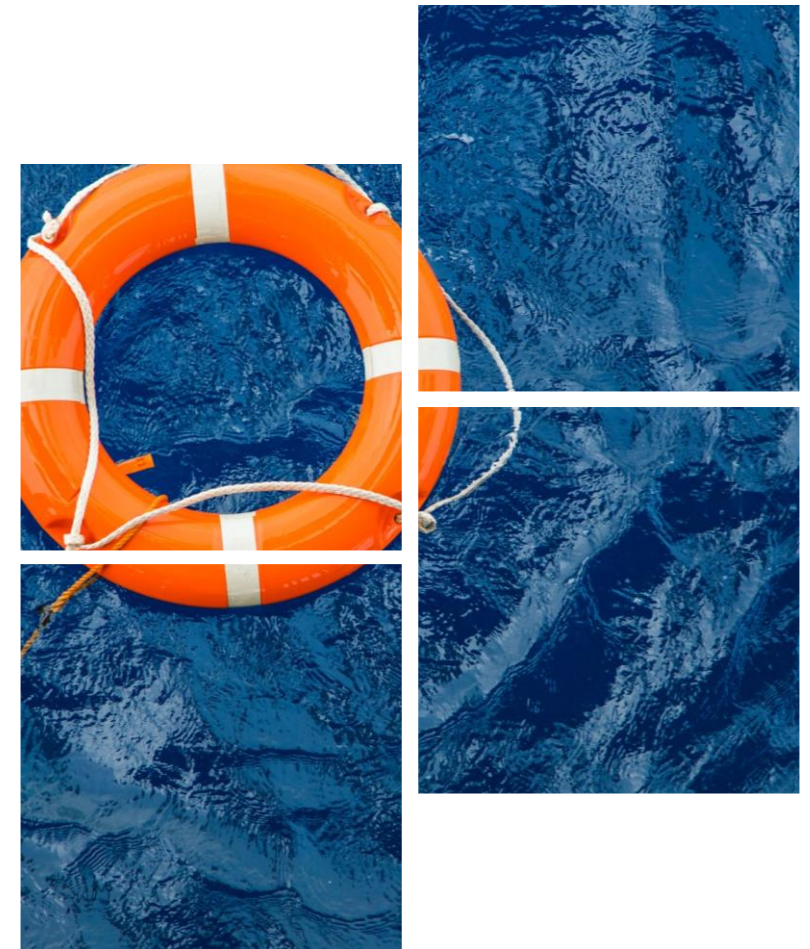
asphyxia

crush

vehicle impact









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