

HOP

What it is...

What it is not...

But how do you do it?!?





**THANK
YOU**

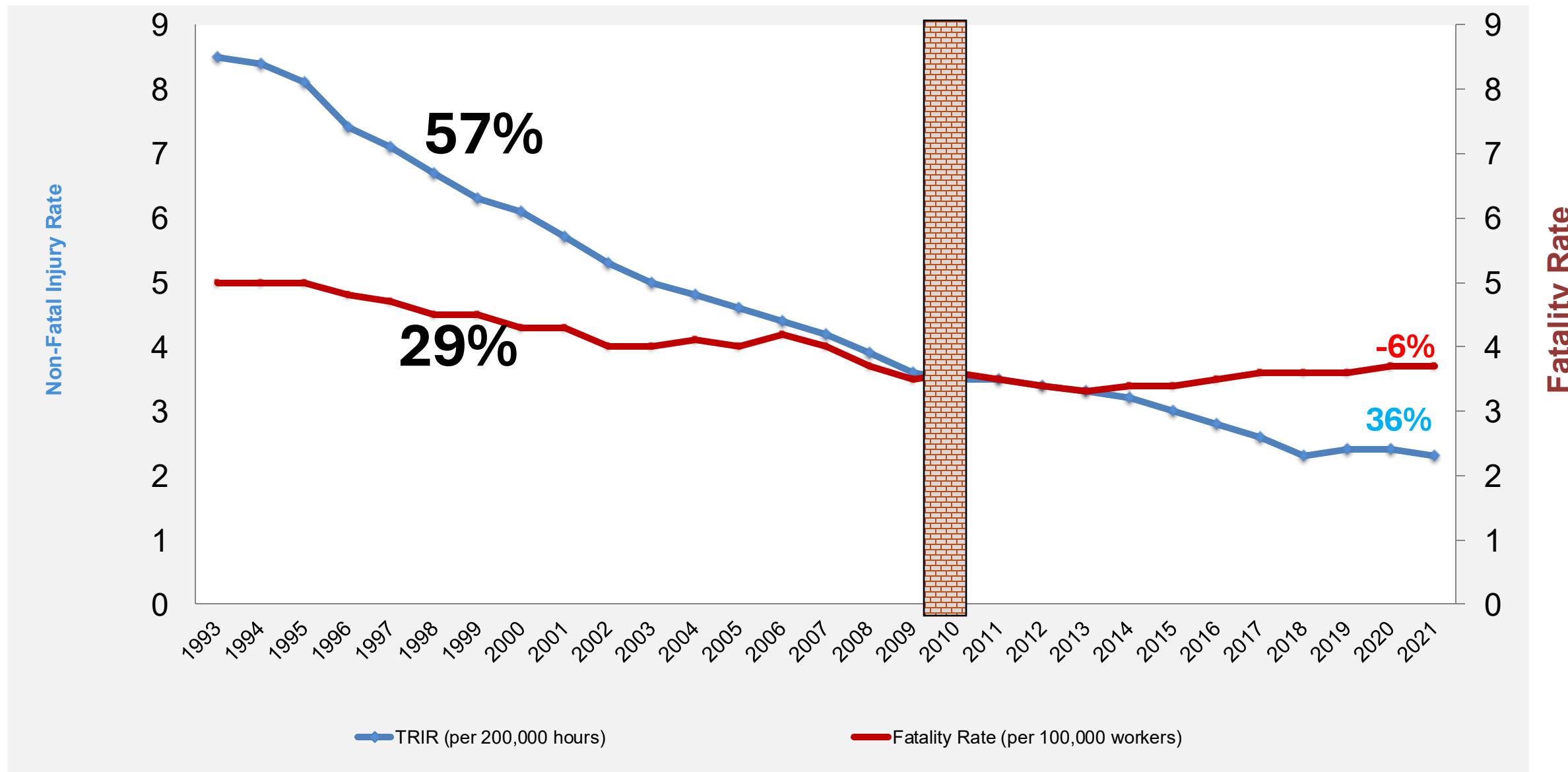
**Please interrupt
Physicist**

**SIF
Critical Risk Control
Humans and Risk**

My Agenda

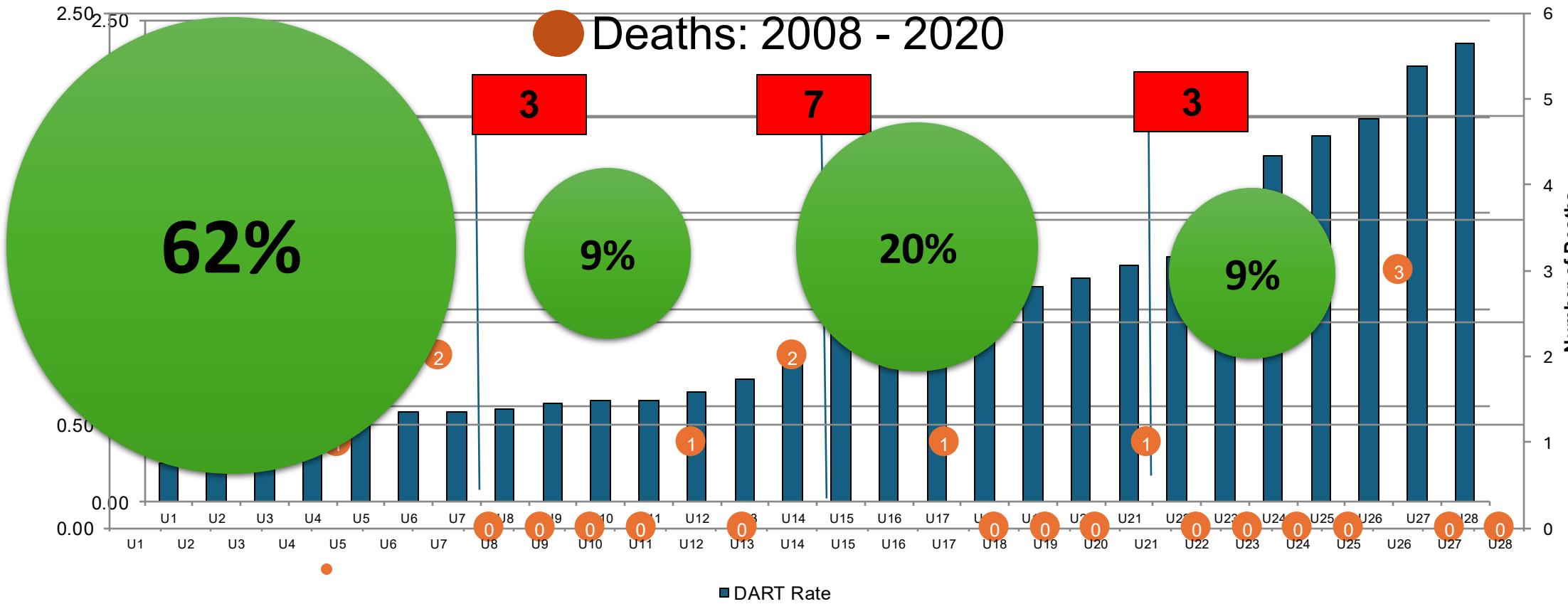
- Data that suggests we're going the wrong way!
- Is there anything that works?
- Only you can decide...

USA Incident Rate Trends: Non-Fatal vs. Fatal



USA Industry

Fatalities = 34





← NEWS

Newly Released Estimates Show Traffic Fatalities Reached a 16-Year High in 2021

The National Highway Traffic Safety Administration [has released its early estimate of traffic fatalities for 2021](#). NHTSA projects that an estimated [42,915 people died](#) in motor vehicle traffic crashes last year, a 10.5% increase from the 38,824 fatalities in 2020. The projection is the highest number of fatalities since 2005 and the largest annual percentage increase in the Fatality Analysis Reporting System's history. Behind each of these numbers is a life tragically lost, and a family left behind.



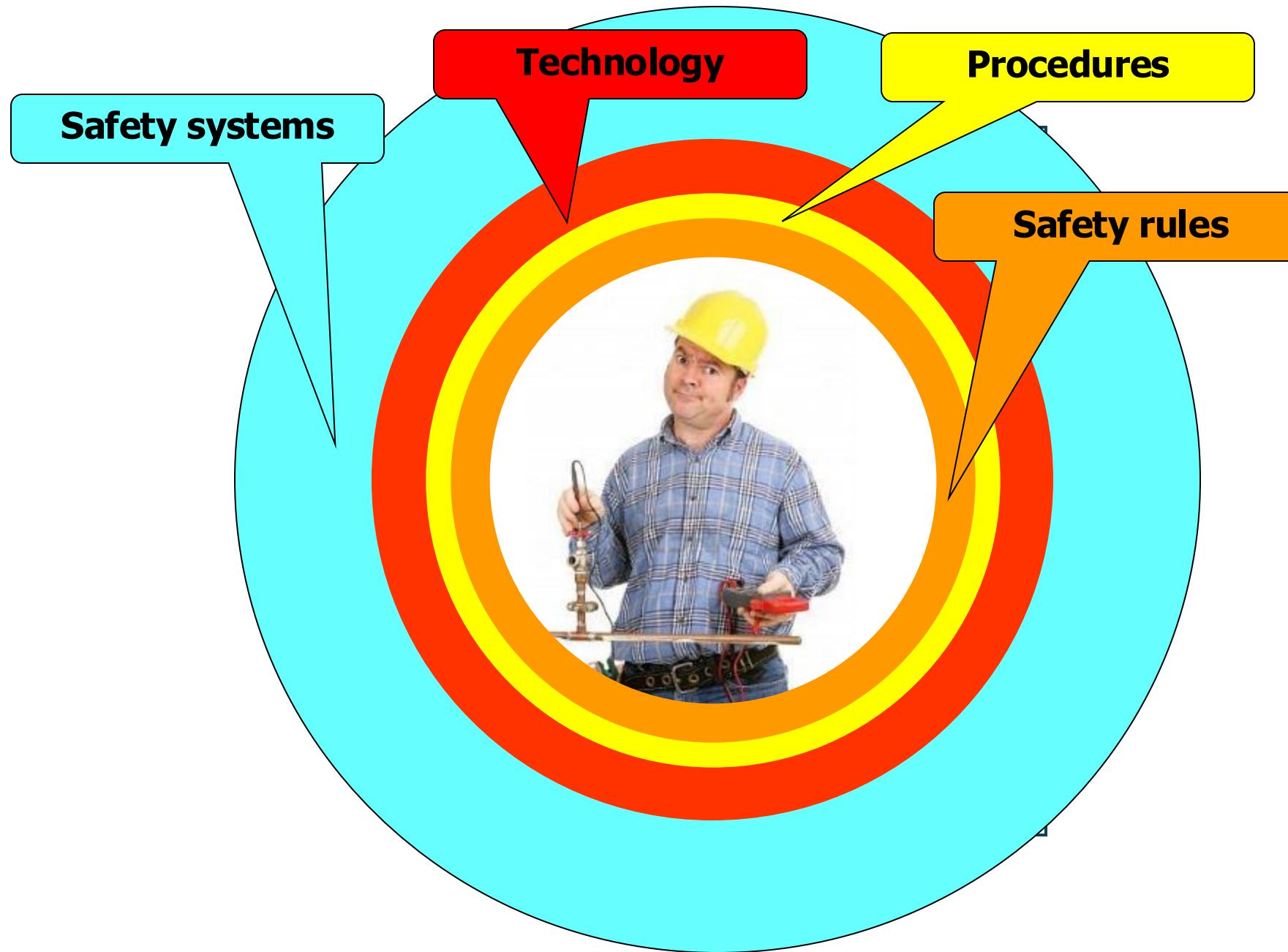
← NEWS

NHTSA Estimates for 2022 Show Roadway Fatalities Remain Flat After Two Years of Dramatic Increases

More miles driven and lower fatality rates compared to 2021

April 20, 2023 | Washington, DC

The National Highway Traffic Safety Administration has released its [latest projections for traffic fatalities in 2022](#), estimating that 42,795 people died in motor vehicle traffic crashes. This represents a small decrease of about 0.3% as compared to 42,939 fatalities reported for 2021. The estimated fatality rate decreased to 1.35 fatalities per 100 million vehicle miles traveled in 2022, down from 1.37 fatalities per 100 million VMT in 2021. Americans are driving more than they did during the height of the pandemic, almost a 1% increase over 2021.



Human Behavior...



...the right
place to start

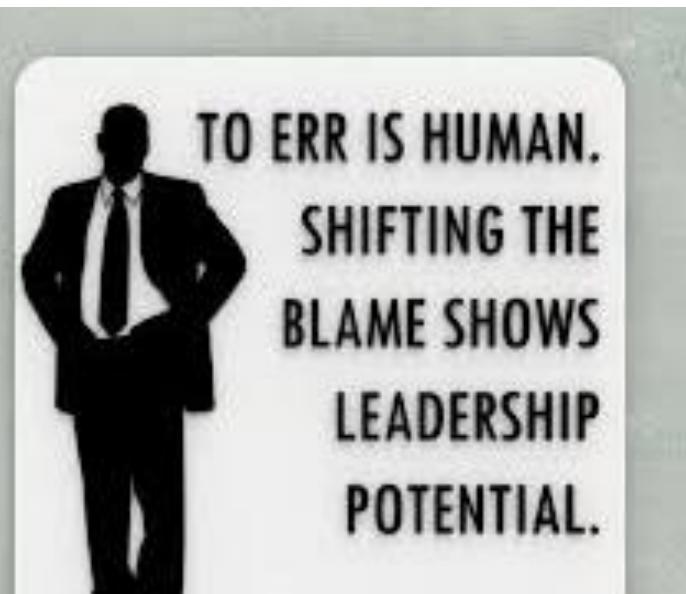
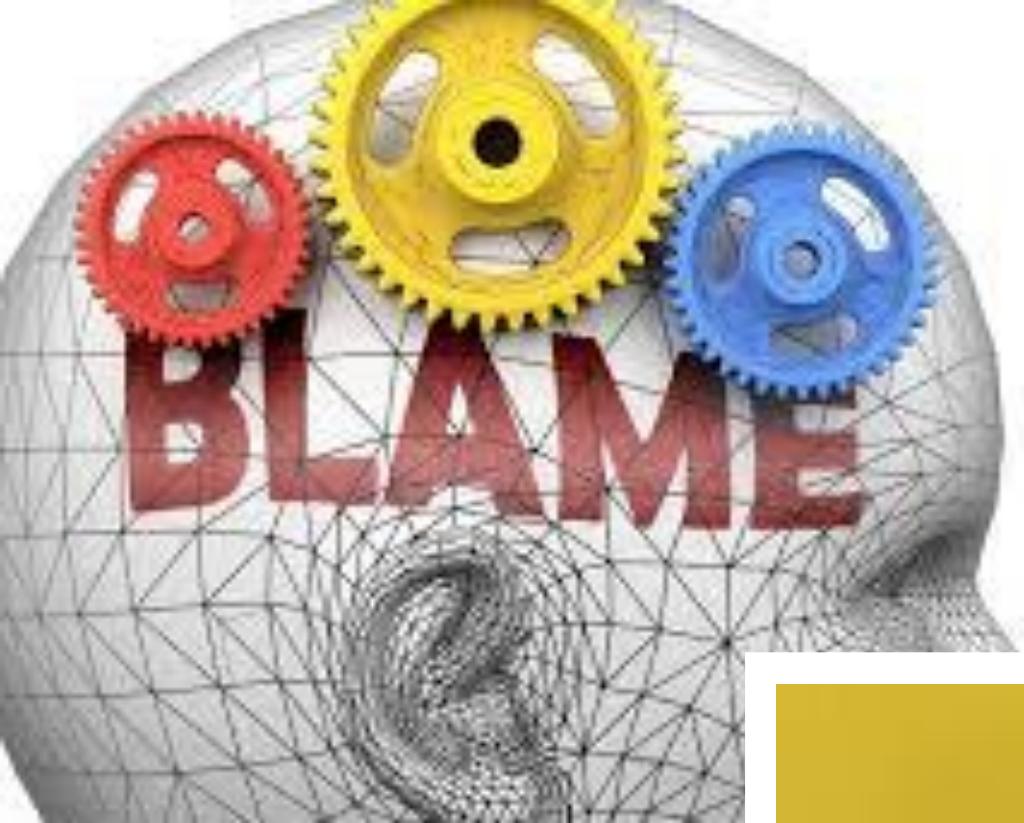
Human error is...

...absolutely human.

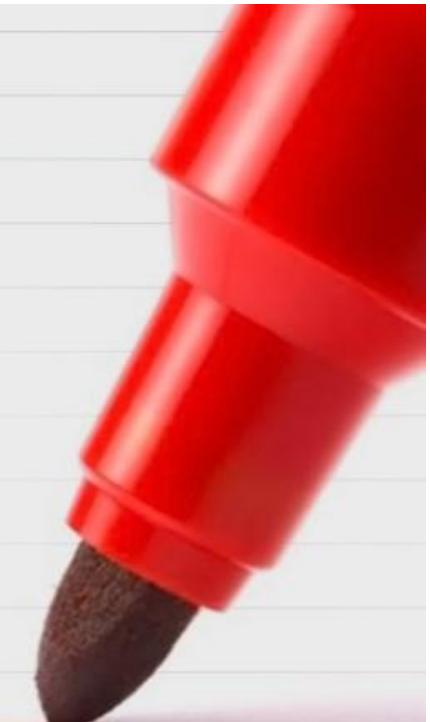


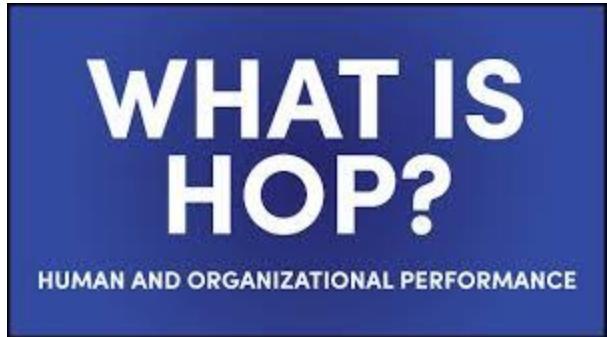
If something can
happen...

...it will happen.
(eventually)

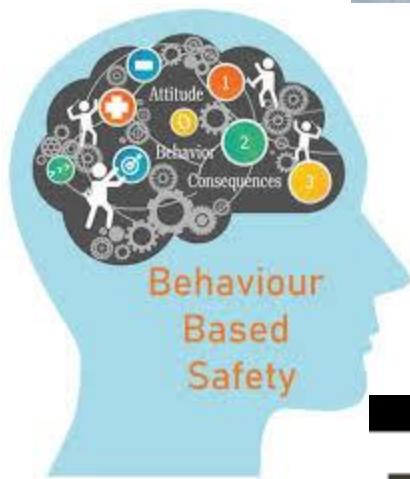


THE
DEVIL IS IN
THE **DETAILS**





Crew Resource Management



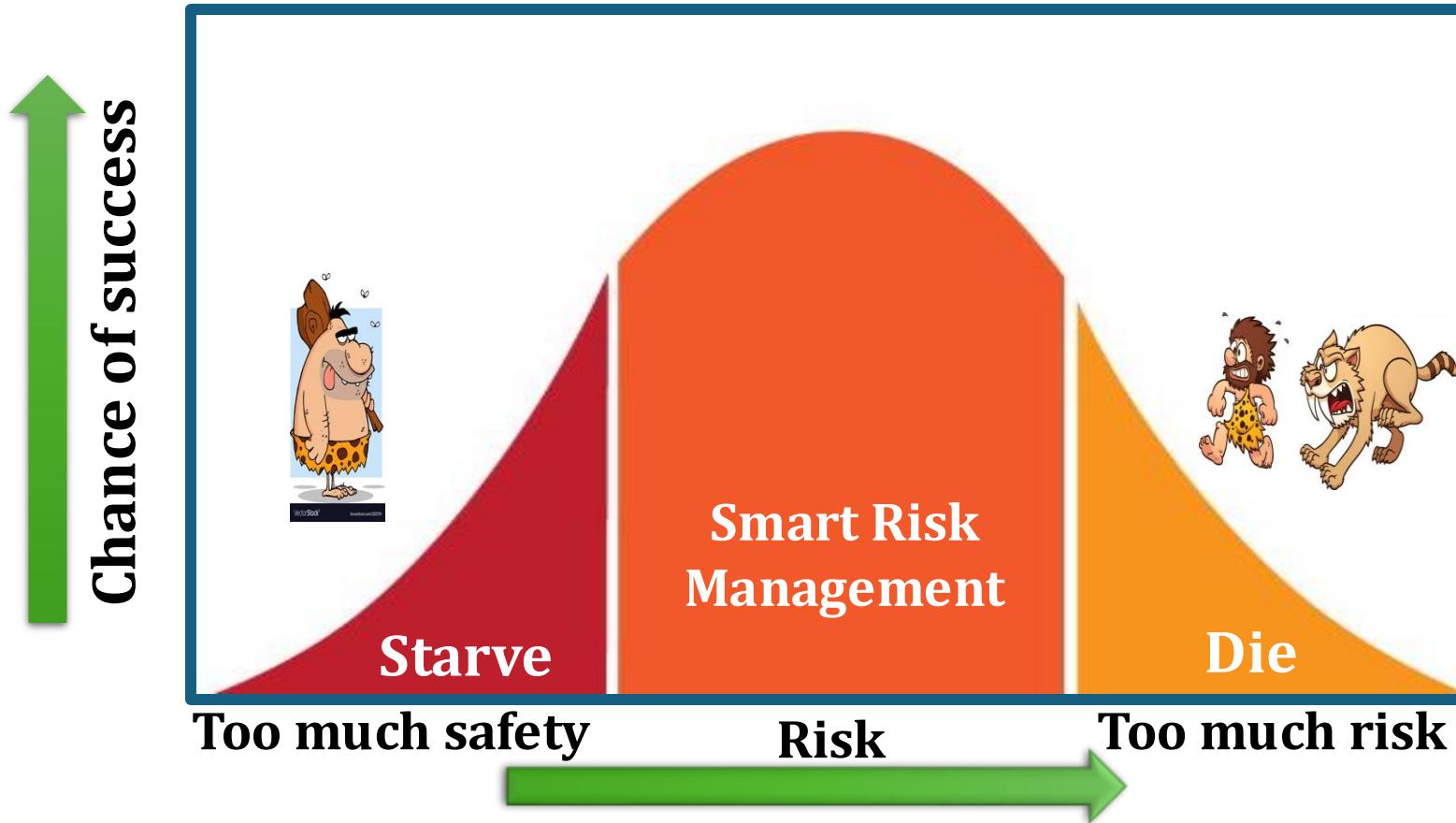


Amazing, Incredible.....
.....but
Quirky!

We must begin to
think differently
about how
humans interact
with risk.



Human Behavior in Hazardous Situations





Are safe organizations safe?

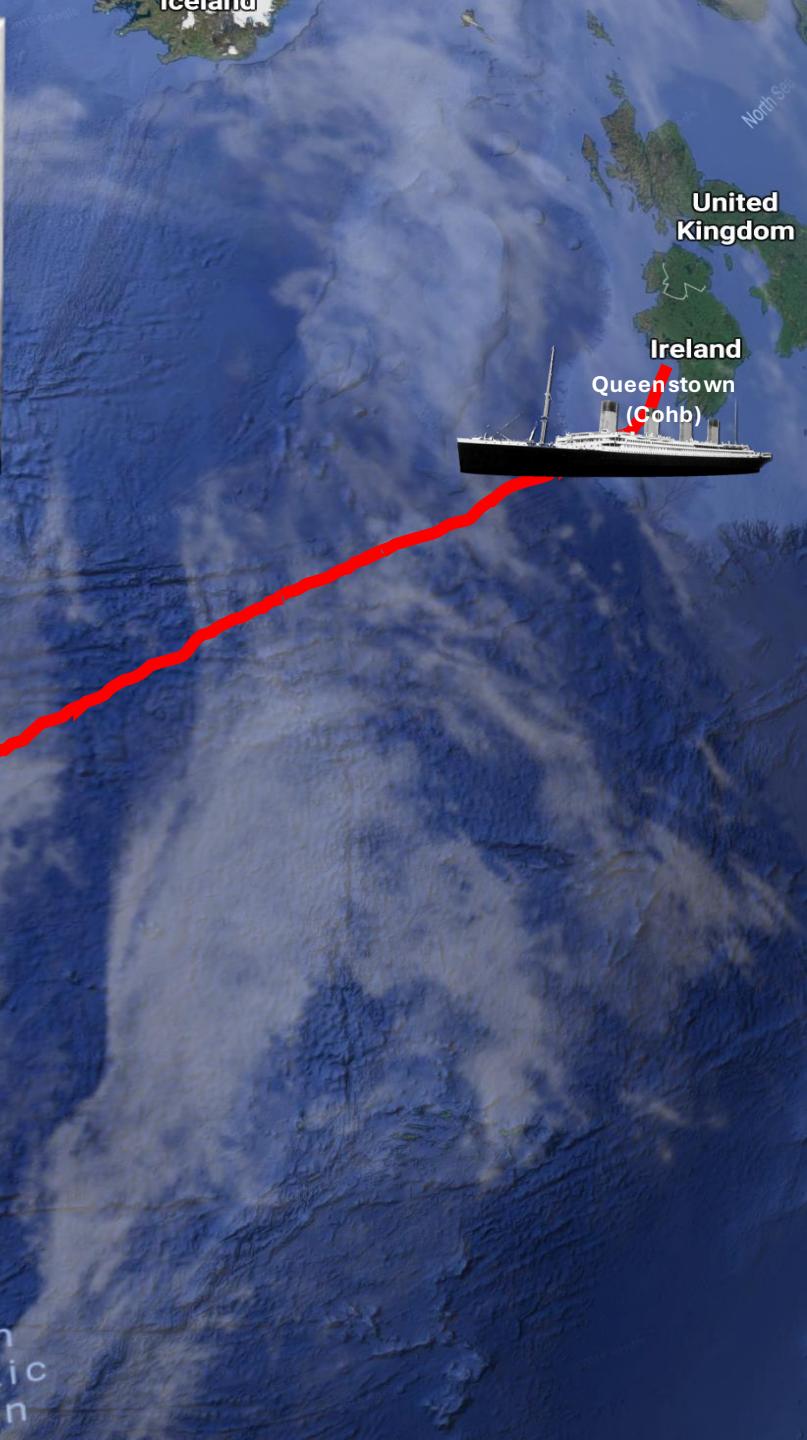
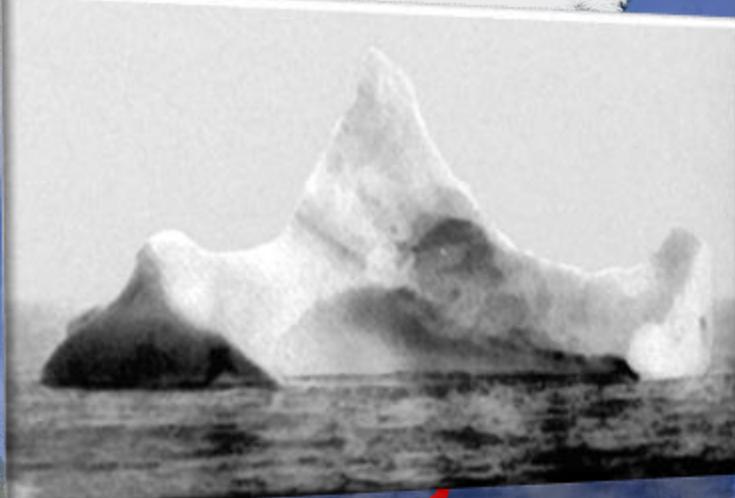
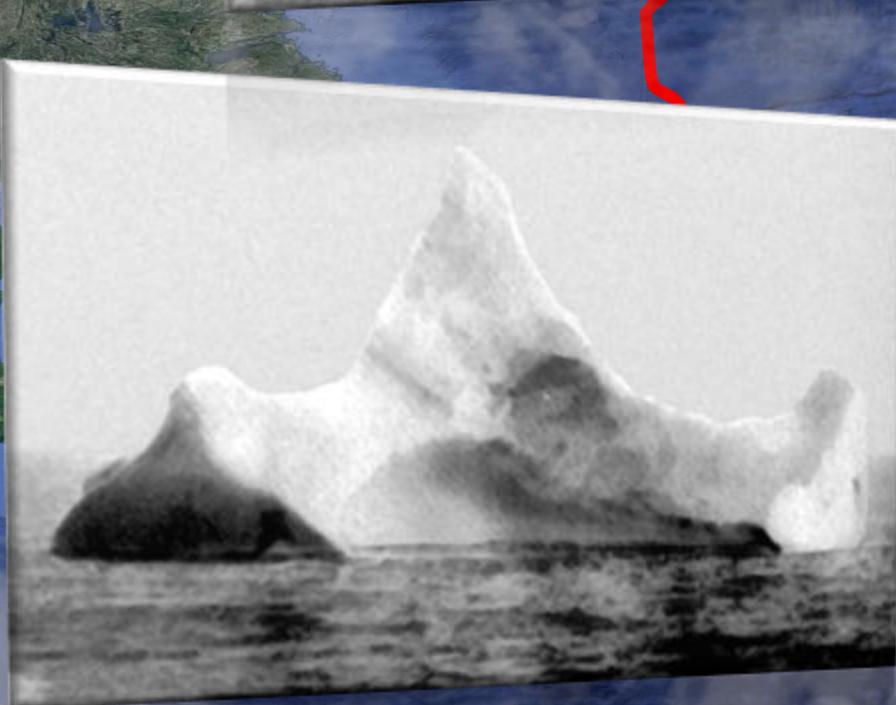
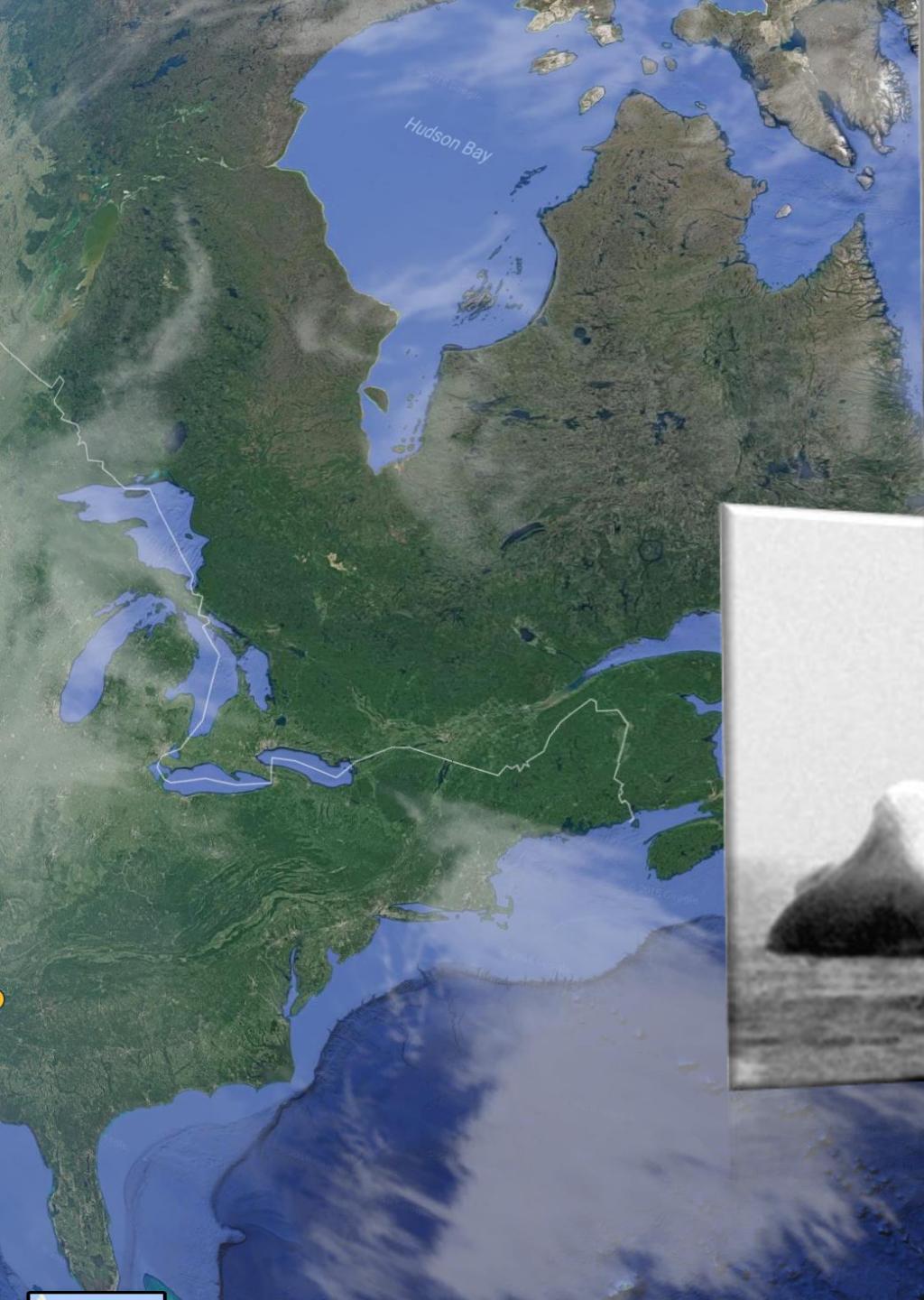
How can we know?

Catastrophic failures of Near Zero Organizations

*near zero organizations
solutions*



Titanic



“We believe our ship is safe...it is unsinkable”

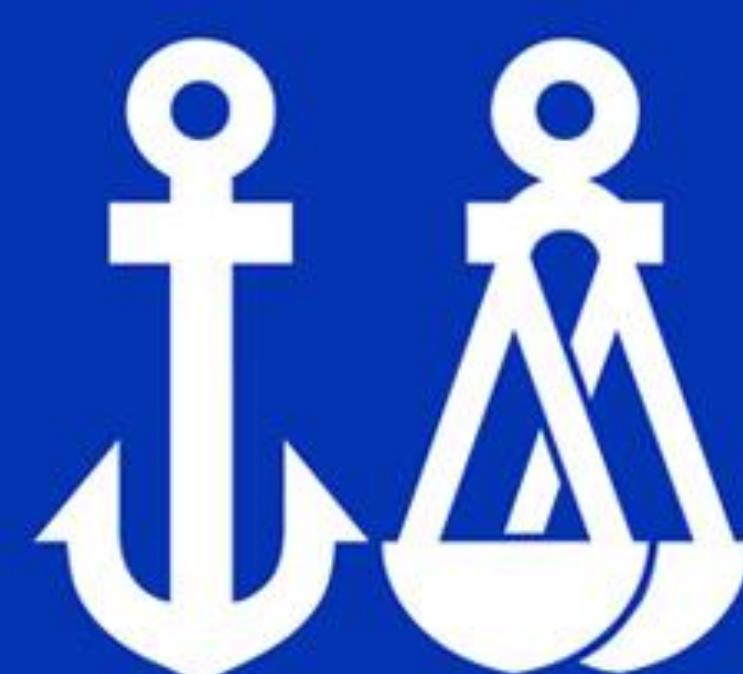


What if...





Texas City Refinery
March 23, 2005
15 killed, 170 injured



A dark, grainy photograph showing the interior of a mine. In the foreground, a worker in a red shirt and blue jeans walks away from the camera. To the left, another worker is visible near some equipment. The floor is made of concrete, and there are metal structures and pipes in the background.

Gencor Gold Mine
16 Sep 1986
177 killed



Kills 4 Workers and
injured
a Porte
killed

November 15, a deadly chemical
Pont's La Porte, Texas plant
es of four workers and injured a
ho is currently hospitalized.

Near Zero Organizations...

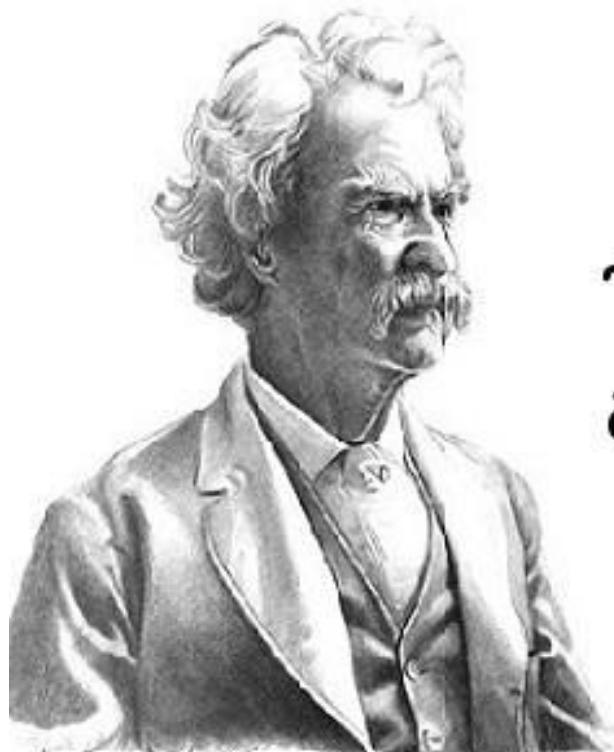
UNTIL THE LAST SECOND



Risk is

random and

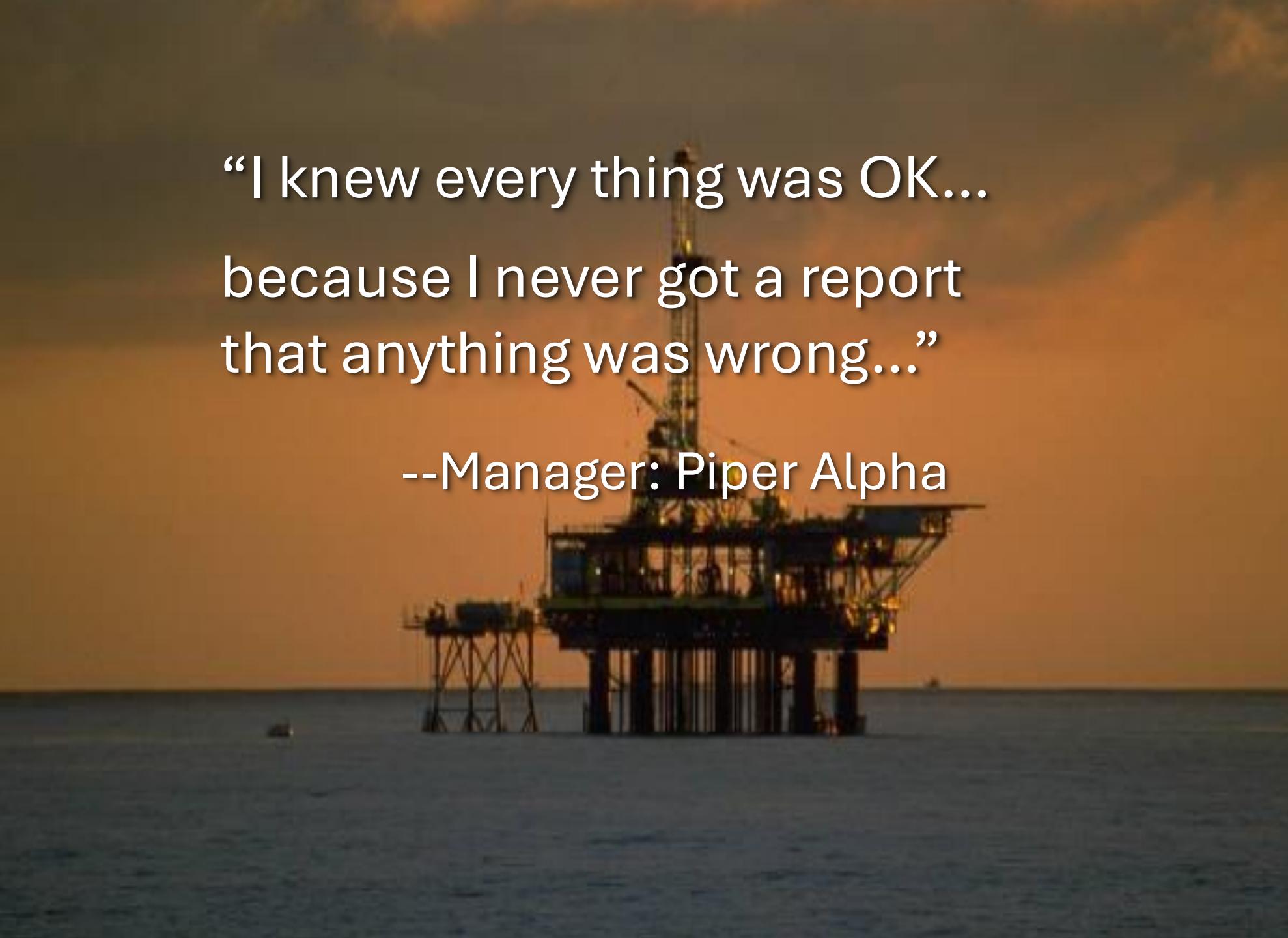
dynamic.



quotespedia.info

There are lies, damned lies
and statistics.

Mark Twain



“I knew every thing was OK...
because I never got a report
that anything was wrong...”

--Manager: Piper Alpha

Transocean Execs Get Bonuses after 'Best Year in Safety,' Despite Gulf Oil Disaster

[+ Comment Now](#) [+ Follow Comments](#)

UPDATED April 5 with apology from Transocean.

Transocean Ltd., owner of the Deepwater Horizon oil rig, awarded millions of dollars in bonuses to its executives after “the best year in safety performance in our company’s history,” according to an annual report and proxy statement released yesterday.



Image via Wikipedia



A photograph of two construction workers in a dusty, open-pit mining or quarry environment. They are wearing yellow and white high-visibility vests over blue shirts, and white hard hats with a circular logo. The worker on the left is holding a small, dark, rectangular object, possibly a smartphone or a small tablet. They are shaking hands in the center of the frame. In the background, there are large piles of earth, a dump truck, and a piece of heavy machinery. The sky is clear and blue.

Management is lying to us...
and we are lying to management...

**Numbers alone don't tell the
whole story...**

**...so is it possible to drill
down into the numbers?**



VIDEOINSIGHT

“Hideable”



07/06/2018 13:11:00:982



04 07 01 21:45:54
2017-06-09

04.07.2017
2017-06-09

1:5

1 Non-Hideable
5 (or more) Hideable



There are things we know we don't know...

And things we don't know we don't know...



BRITISH
PATHÉ



How can we discover
critical
vulnerabilities?

How can we handle
random and dynamic
risks?



Fight randomness with randomness!

Goals of the safeSENTRY process?

It creates:

- Additional eyes in the workplace
- An opportunity for workers to make valuable contributions
- Authority to take action
- Continuous feedback about risks, as work is happening
- A constant safety focus in all workplaces
- Recognition that risk is dynamic (work doesn't always go as planned)

WHAT

- To establish a process through which employees can participate in the identification and control of critical (SIFC) risks in their work environments
 - *These may be safe or unsafe conditions, tasks, systems, and routines*

WHO

- All allocated employees in a work team participate in the program, rotationally

WHEN

- Each team will have a safeSENTRY in each shift – a rotational role for all in team to participate
- safeSENTRY observations should be conducted randomly in line with a plan to be compiled by the Supervisor

HOW

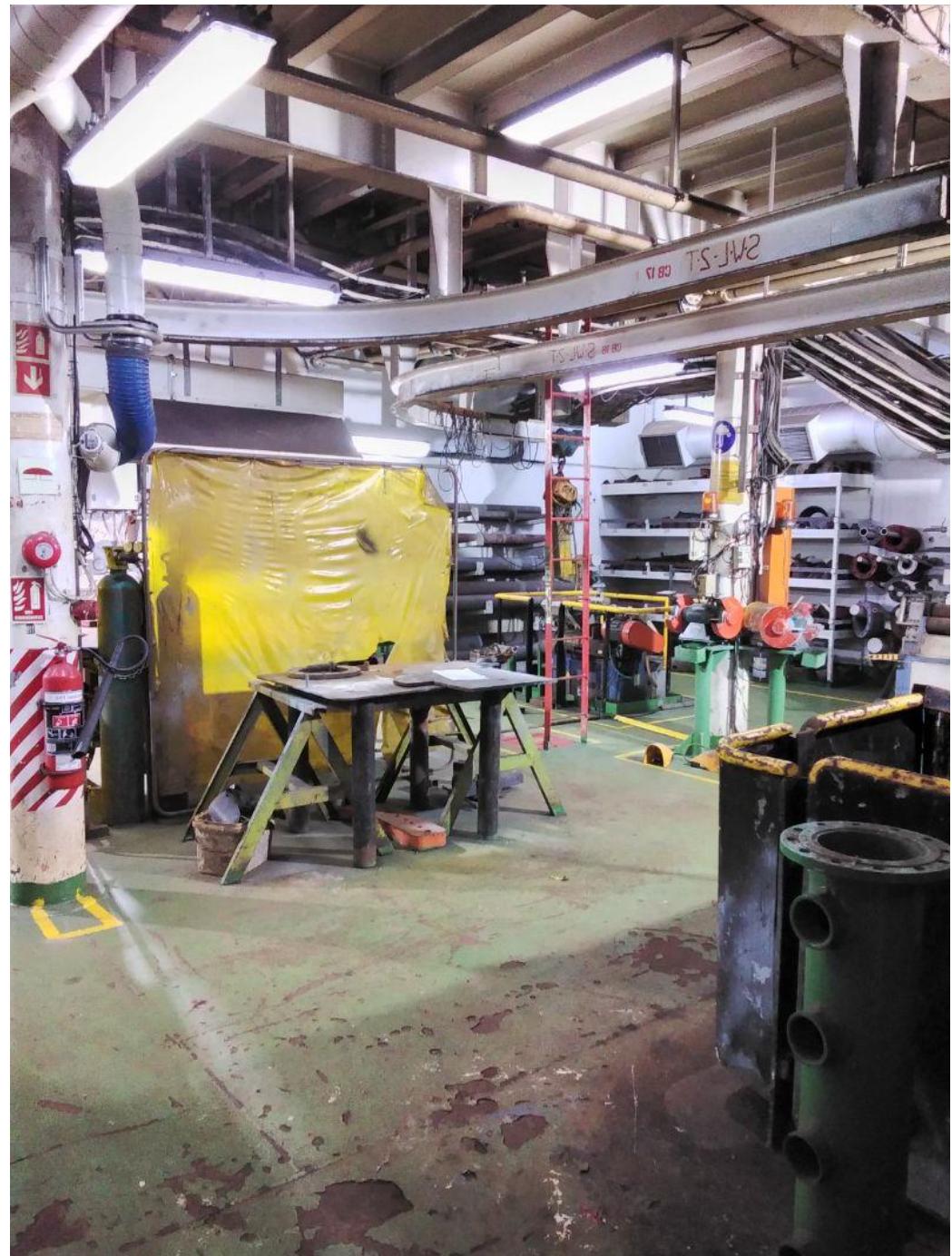
- A safeSENTRY form will be completed for each safeSENTRY ‘round’

safeSENTRY process

- A trained safeSENTRY typically tours every shift at least twice
- They observe work which involves high risk and talk with the workers about the work
- They do the following tasks for each observation.
 - Talk to the operators about risk
 - Assess the risk against the 6Y framework
 - Take a photograph
 - Calculate the risk level using the tool
 - Check controls
 - Look for safe practice
 - Look for improvement opportunities
 - Fill in the safeSENTRY card or app
 - Report results at the end of the shift



safeENTRY





Ventilation failures during fire







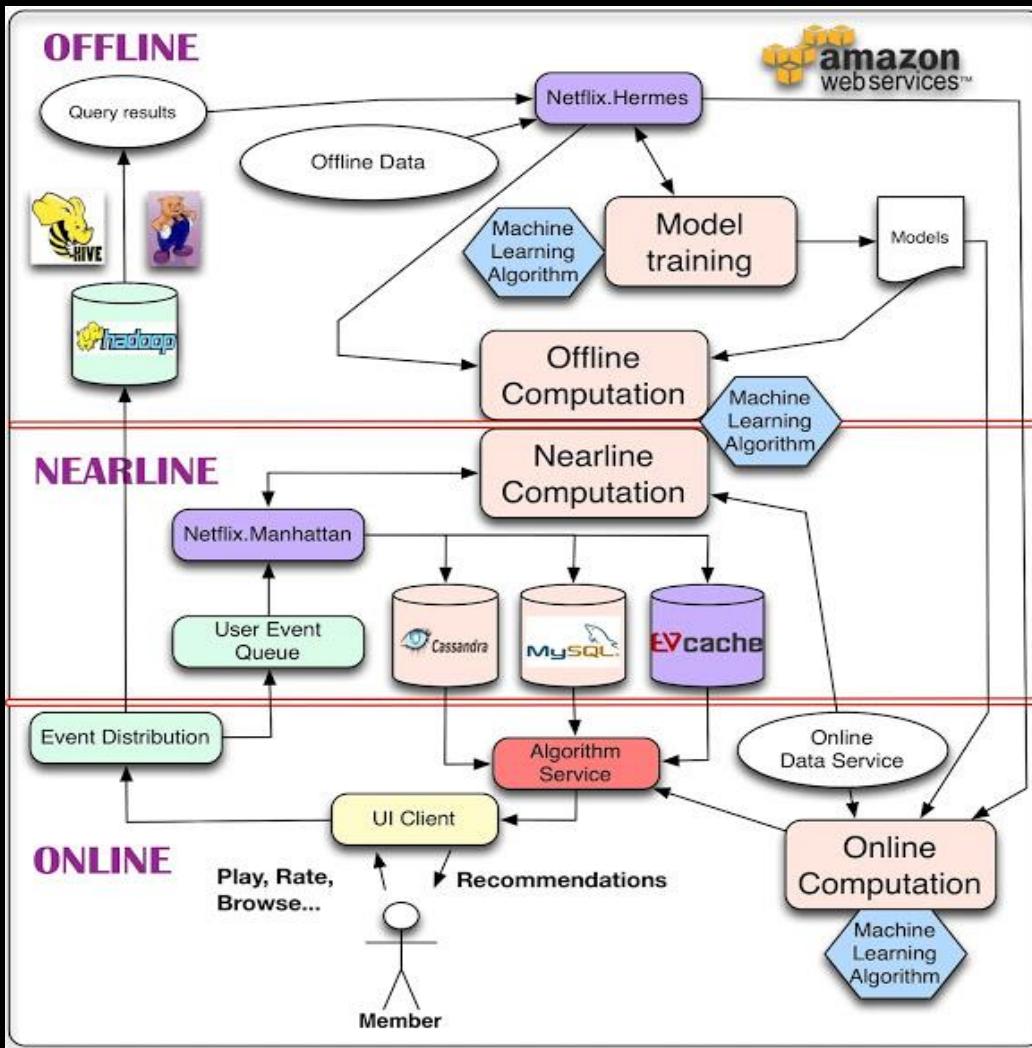
PREOCCUPATION
WITH FAILURE

SENSITIVITY TO
OPERATIONS

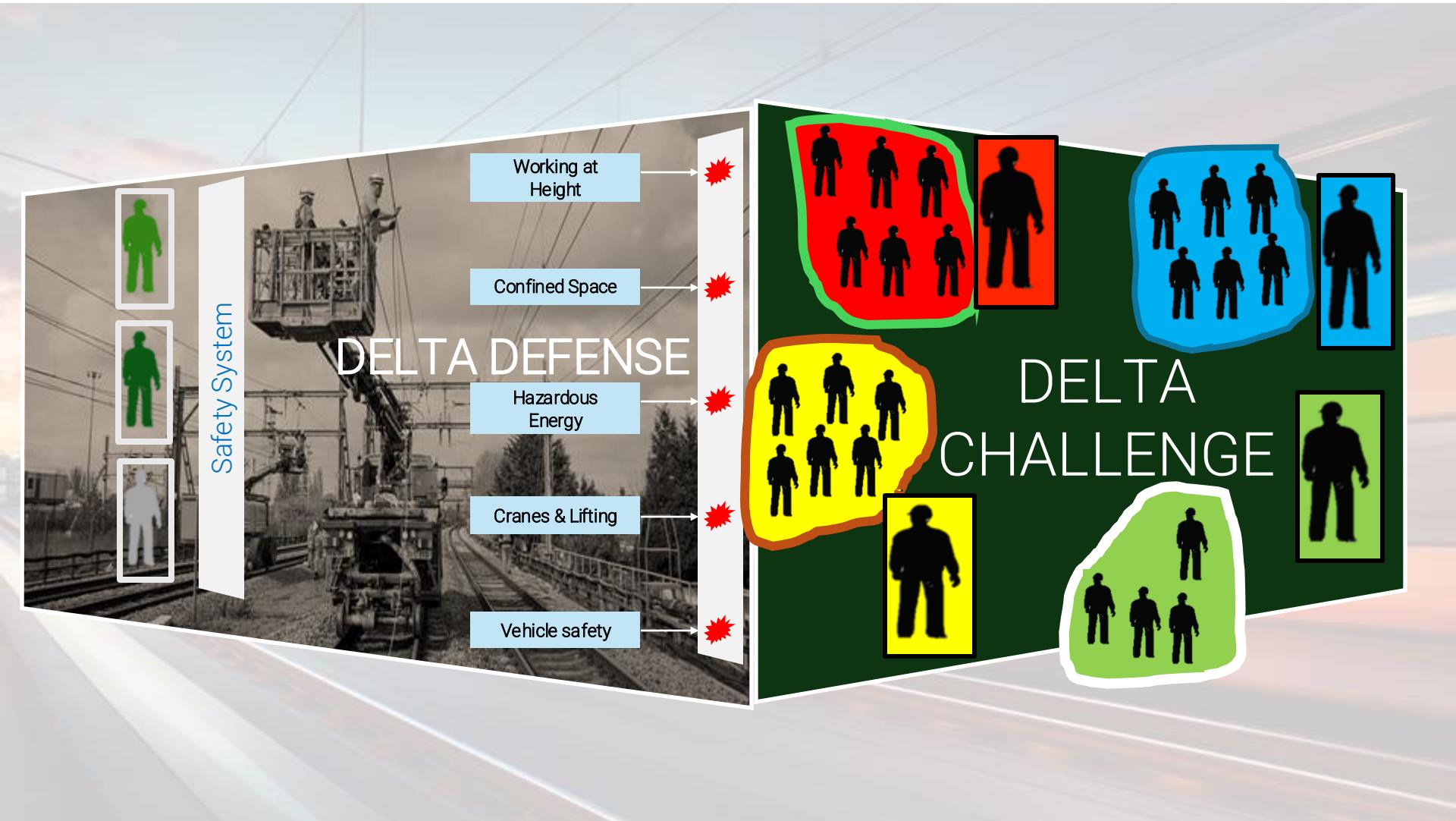
RELUCTANCE TO
SIMPLIFY

COMMITMENT TO
RESILIENCE

DEFERENCE TO
EXPERTISE



DELTA 'challenge'
Teams





teamYELLOW

teamGREEN

Team engages on what's
going well

Owner



Trust but verify!

regularly
randomly
repeatedly

The Devil
is in the
Details

THANK YOU!

Mark Pergrem

mark.pergrem@safemap.com