



Supply Chain Health & Safety Leadership Group

■ Webinar 22nd March 2023



IDENTIFYING THE RISKS





Andrew Cox
SHEQ Director



Our HS Journey RIS2

- AFR's
 - RIDDOR 0.08/100 000 (Best 0.05)
 - LTIFR 0.18/100 000 (Best 0.15)
- Near Misses increased dramatically
- Utility Damage Rate 0.21/100 000
- Incursions monitoring and reporting across National Highways
- Maturity Modelling
- Behavioural Safety Programmes
- Home Safe and Well 6 focus areas



Key Metrics

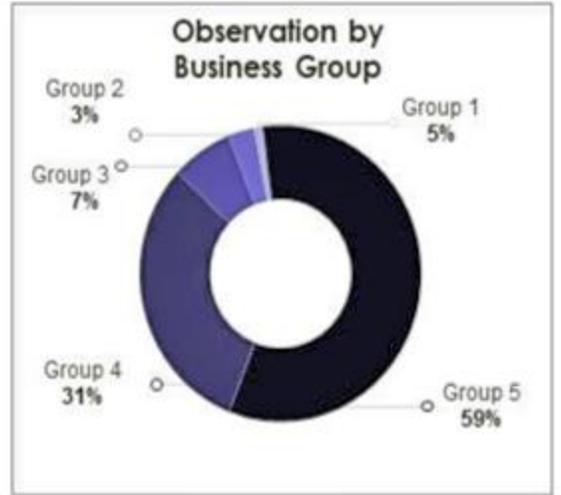
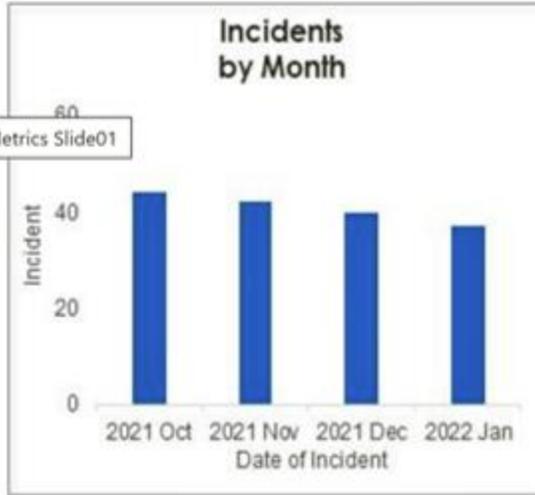
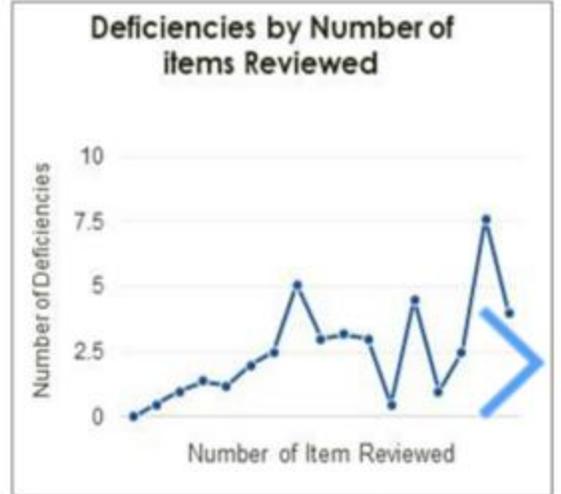
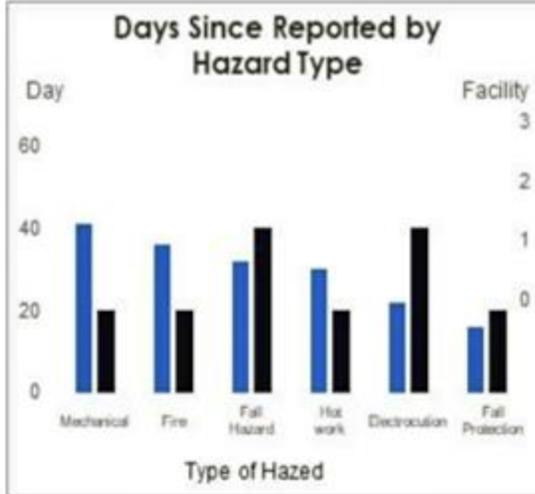
Employee Injuries

Incident Analysis

Hazards, Inspections, & Actions

Observations

Training



Organizations Safety And Incident Management Dashboard With Key Metrics Slide01



Asymptotic Symptoms

“An MSc in Risk, Crisis, Disaster Management opened my mind to look beyond what we are traditionally taught, critic the norms, challenge thinking and above all make it real!”

- Kevin Stevens -

“Severe accidents or fatalities are a reality; and will happen even with the highest level of compliance and safety culture.....

.....because fatalities and serious accidents are not like traditional industrial safety problems – they are outliers and anomalies that can’t be predicted”.

- Dr. Todd Conklin -

Prevention

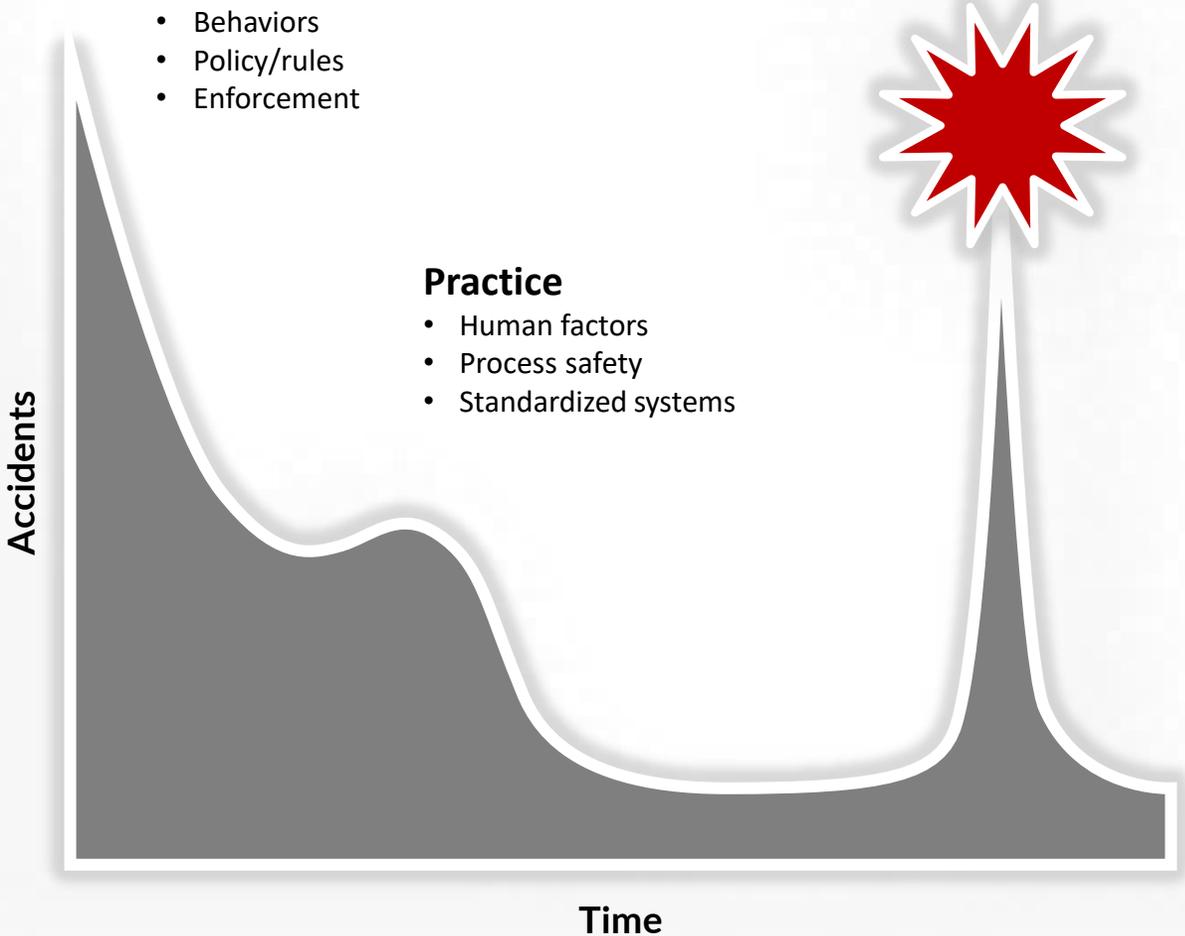
- Behaviors
- Policy/rules
- Enforcement

Practice

- Human factors
- Process safety
- Standardized systems

Catastrophic Failure

- Not like other failures
- No near misses
- Exist in success



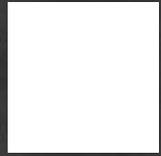
Foresight

*"Notwithstanding the tragic loss of life in the Gulf of Mexico,
we achieved an exemplary statistical safety record."*

- Steven Newman, CEO Transocean, 2010 -



- Searching for those **Significant Risk** predictive!
- Proactively looking for those weak signals
- Identifying where we should be looking
- What we should be reporting
- How we analyse risk



**We cannot solve our
problems with the same
thinking we used when we
created them**

- Albert Einstein



ZERO

[zeer-oh] noun, plural zeros, zeroes. From Italian zefiro, from Arabic safira - meaning empty or nothingness

ZERO IS ABSOLUTE

3 keys to successful safety indicators: clearly defined, align indicators for safety with the business objectives, refine the indicators in line with your progress

EVOLVE OUR THINKING

We need room to learn, grow, develop and mature

DON'T COUNT THE DAYS, MAKE THE DAYS COUNT

50

Shades of Zero

ZERO

Adopted wholeheartedly in workplace safety, because its all round us in life

LET'S MOVE FROM MEASURING FAILURE TO MEASURING SUCCESS

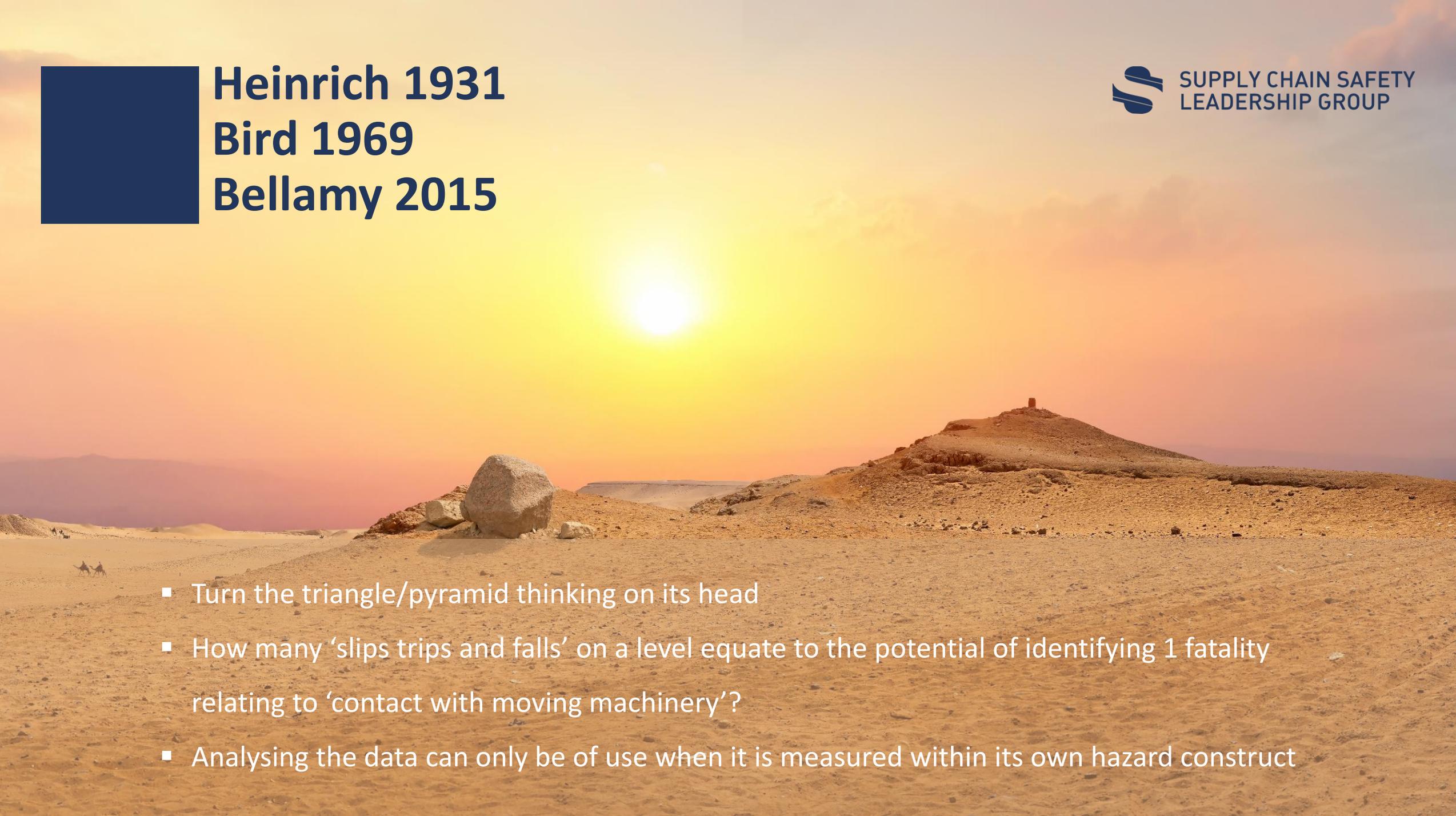
Devise leading indicators that are proactive, preventive and predictive

Ideology or practical application

Looking Good Indicators (LGI) all to often hide a harsh reality

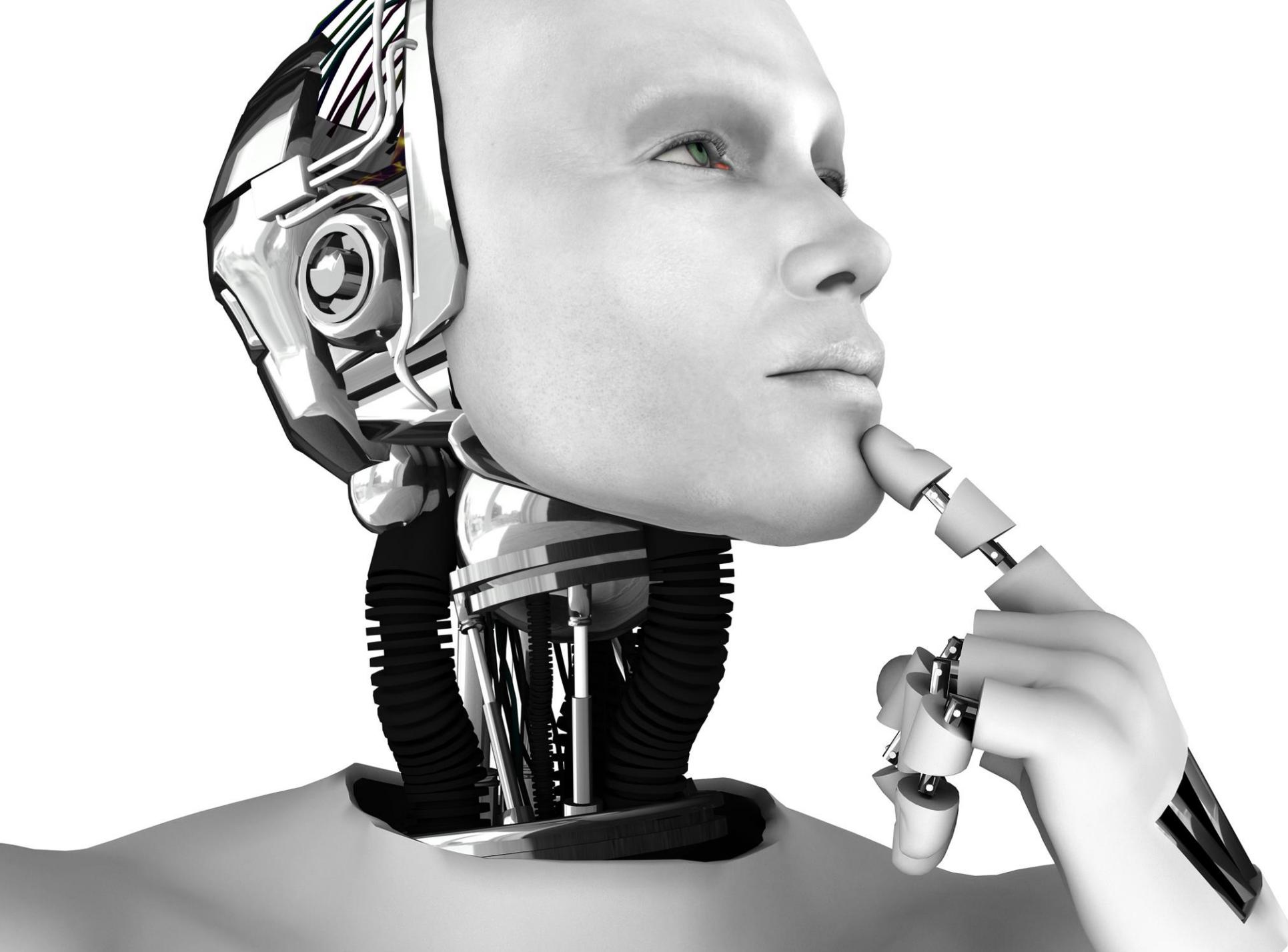
"Zero harm has become a corporate brand rather than a meaningful vision [only] delivered with the right programme".

- Mark Ormond -



Heinrich 1931
Bird 1969
Bellamy 2015

- Turn the triangle/pyramid thinking on its head
- How many 'slips trips and falls' on a level equate to the potential of identifying 1 fatality relating to 'contact with moving machinery'?
- Analysing the data can only be of use when it is measured within its own hazard construct

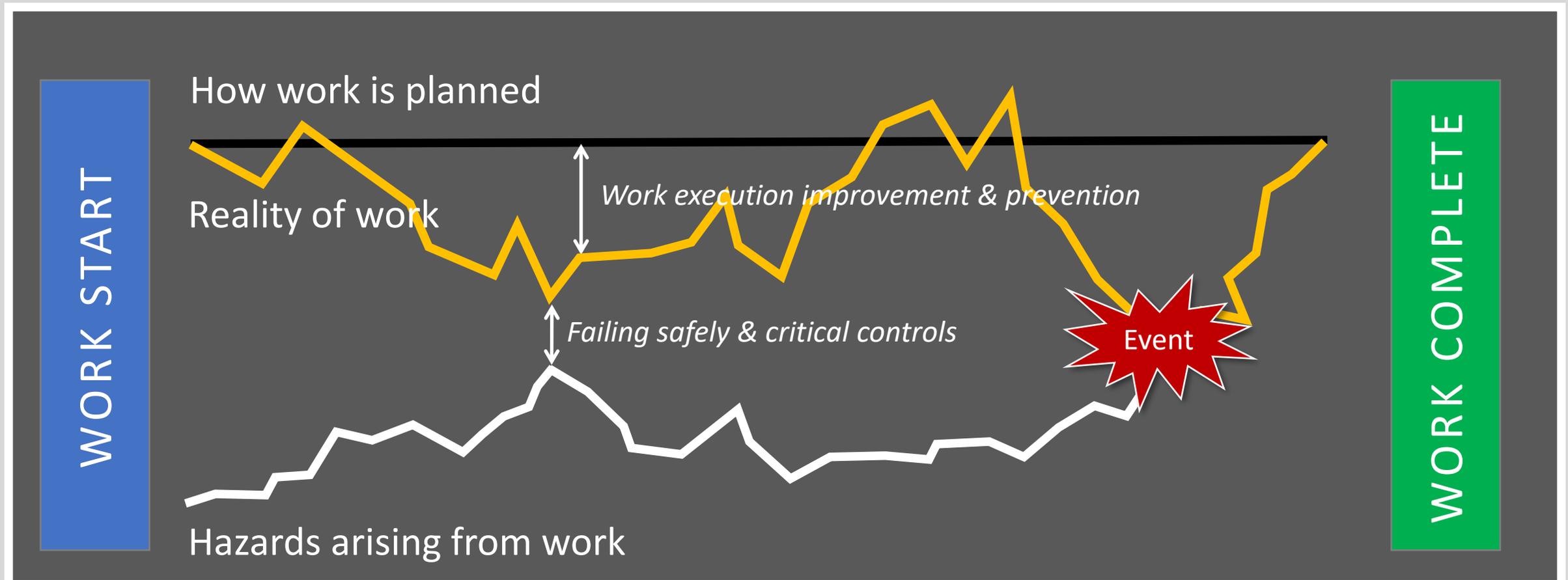


So...

Where does it fail?

HS Ideology or Practical Application

HOW WORKHUMANS ACHIEVE WITHIN COMPLEX SYSTEMS





Strong Defences

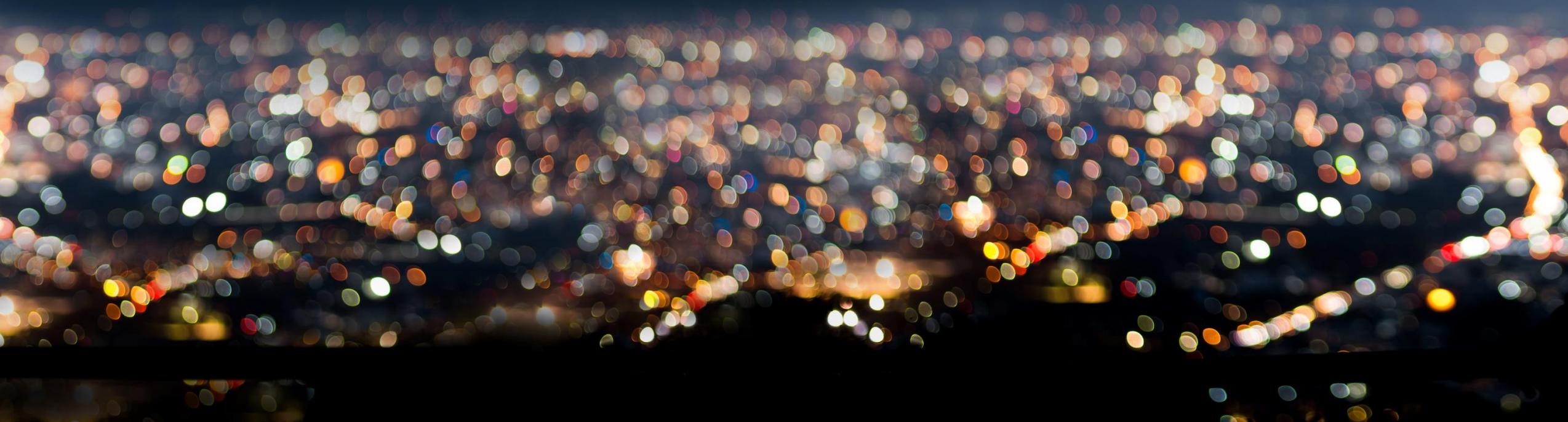
“How many operations do you have where the workers only defence against injury is their training, or that they’ll do the job right every time?”

- Dr. John Green -

When human beings fail, and they will, our critical risk controls should allow us to fail without causing serious injury or loss of life!



“The Future is Bright,
Significant Risk
the Future is



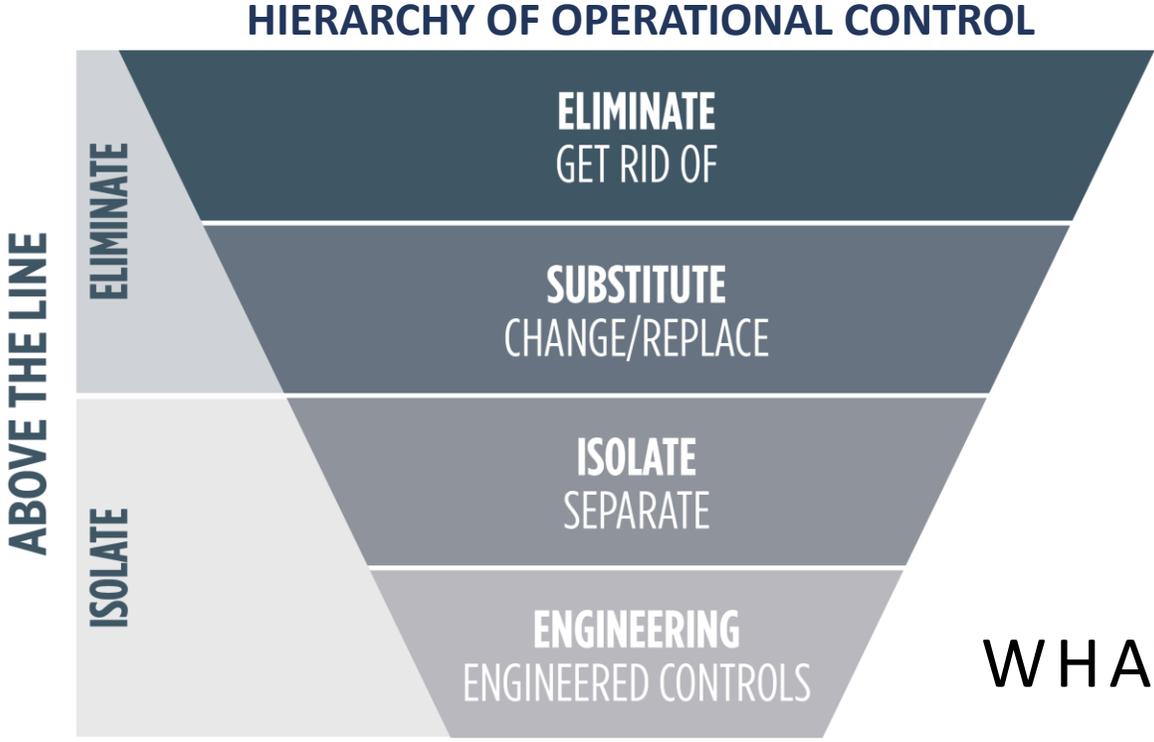
Vision

To eradicate any occurrences of fatal harm from “**significant risks**” throughout the complete lifecycle of all National Highways assets by 2030 and prevent occupational health life-changing harm by 2040, by elimination, substitution, isolation and/or engineering controls.





Significant Risk Thinking



WHAT IS DIFFERENT?

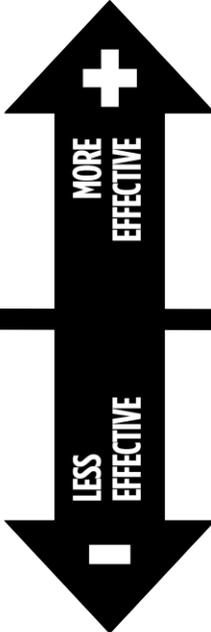


Significant Risk Thinking

HIERARCHY OF INTERVENTION EFFECTIVENESS

WHAT IS DIFFERENT?

 ABOVE
THE LINE



FORCING FUNCTIONS

AUTOMATION & COMPUTERISATION

SIMPLIFICATION & STANDARDISATION

SYSTEM
FOCUSED



Structure



SCSLG MEMBERS
CHAIR
ADAM GREEN
CEO
FM CONWAY

**SIGNIFICANT
RISK GROUPS**

**INCURSIONS
& IPV**
JAMES HALUCH
MANAGING DIRECTOR
BREEDON GROUP

**OCCUPATIONAL
ROAD RISK**
NICK HOLT
OPERATIONS DIRECTOR
WJ ROADMARKINGS

**PEOPLE PLANT
INTERFACE (PPI)**
SIMON ELLISON
HIGHWAYS DIRECTOR
COSTAIN

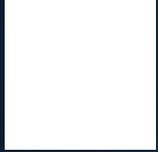
**OCCUPATIONAL
HEALTH**
TONY SLATER
MANAGING DIRECTOR
SMP ALLIANCE

**STRATEGIC
DELIVERY
GROUPS**

**HEALTH & SAFETY
IN DESIGN**
IAN SPELLACEY
CLIENT DIRECTOR - STRATEGIC
HIGHWAYS ATKINS

**HEALTH & SAFETY
PERFORMANCE**
ANDREW SHARP
MANAGING DIRECTOR
CARNELL

COMMUNICATION
VICKI GLOVER
HR DIRECTOR
KIER LIMITED



Identifying Risk



Lets discuss risk... [GO](#)

Risk Profiling Results



PRIORITY GROUPS



IDENTIFYING THE RISKS

RISK PROFILE - A FIRST FOR INDUSTRY

Occupational Road Risk

People Plant Interface

Incursions + IPV Strikes

Working at Height

Temporary Works

Underground – Overground Services

Occupational Health – Noise – Dust – Manual Handling

Plant Turnover

Lifting Operation



**Incursions +
IPV Strikes**



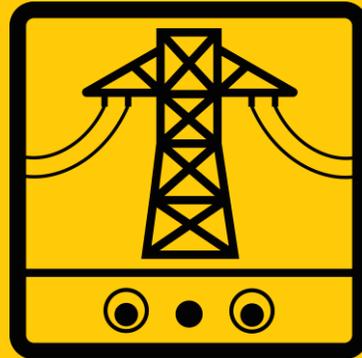
**Lifting
Operation**



**Occupational
Health**



**Occupational
Road Risk**



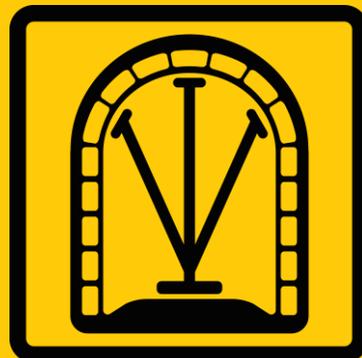
**Underground
- Overground
Services**



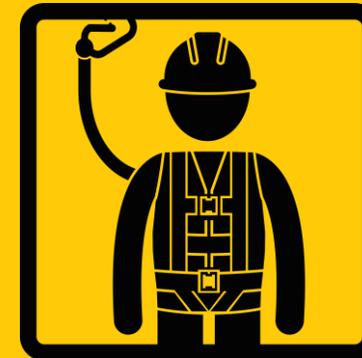
**People Plant
Interface**



**Plant
Turnover**



**Temporary
Works**



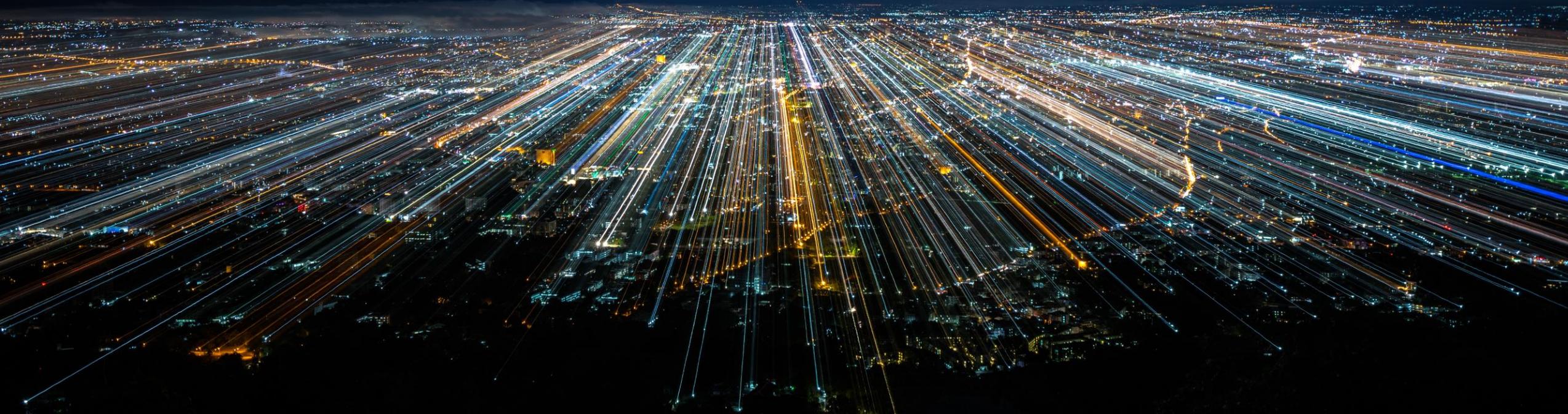
**Working at
Height**



A CEO's Prospective

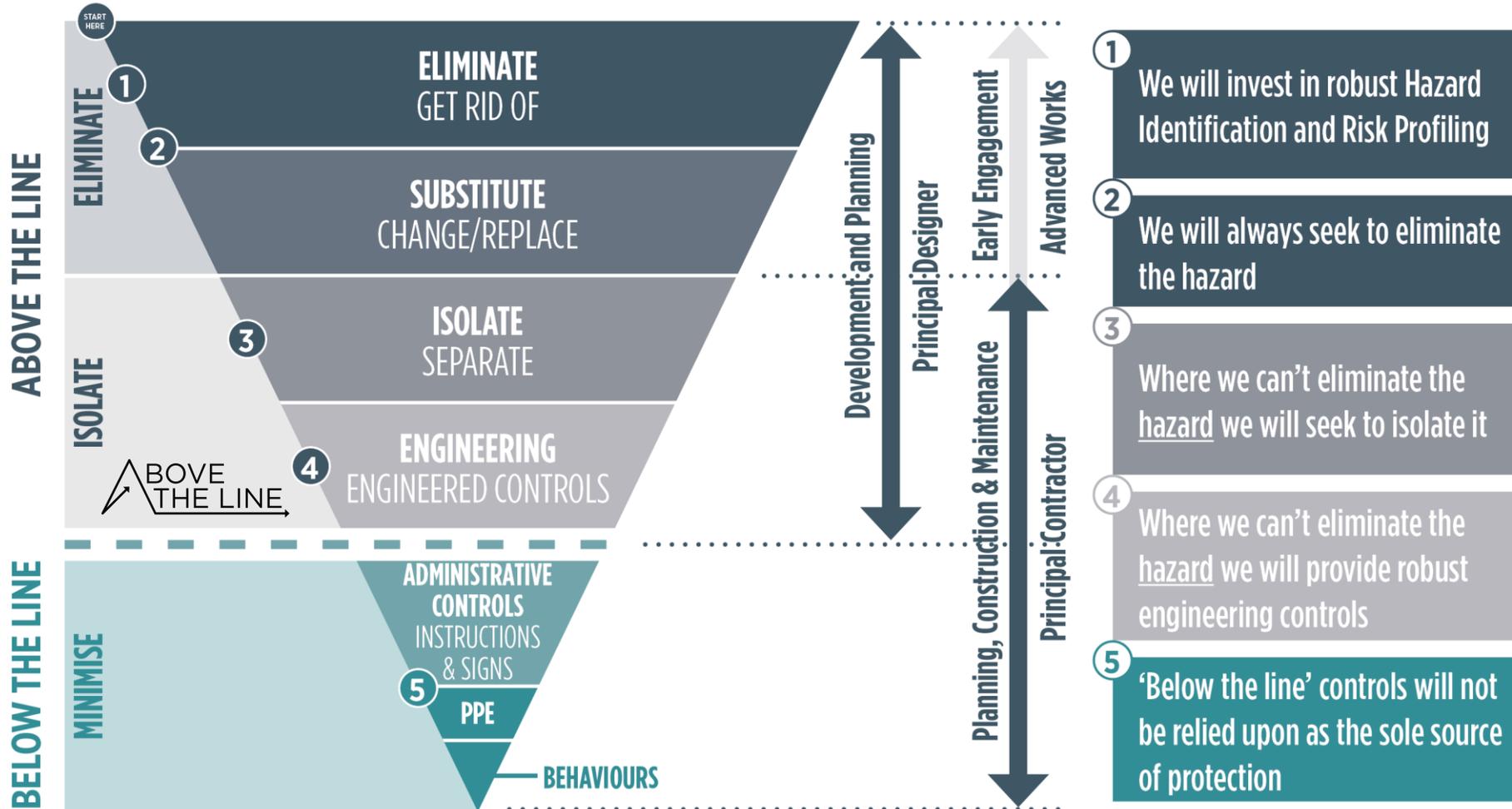


Adam Green
FM Conway



Practical application of the approach

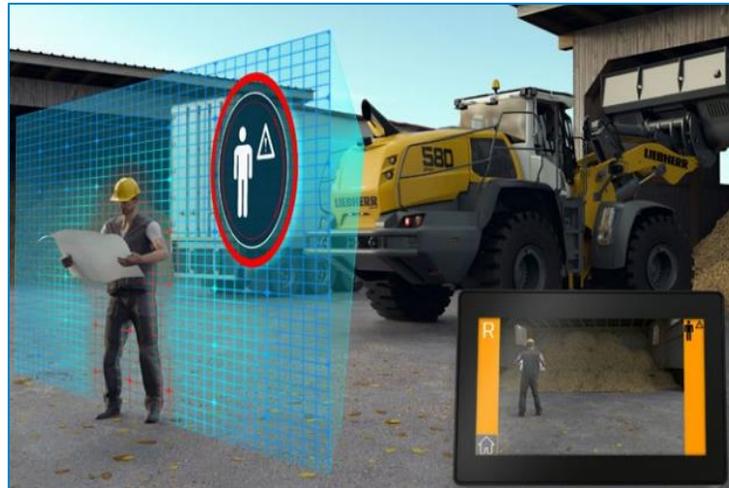
HIERARCHY OF OPERATIONAL CONTROL



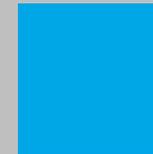
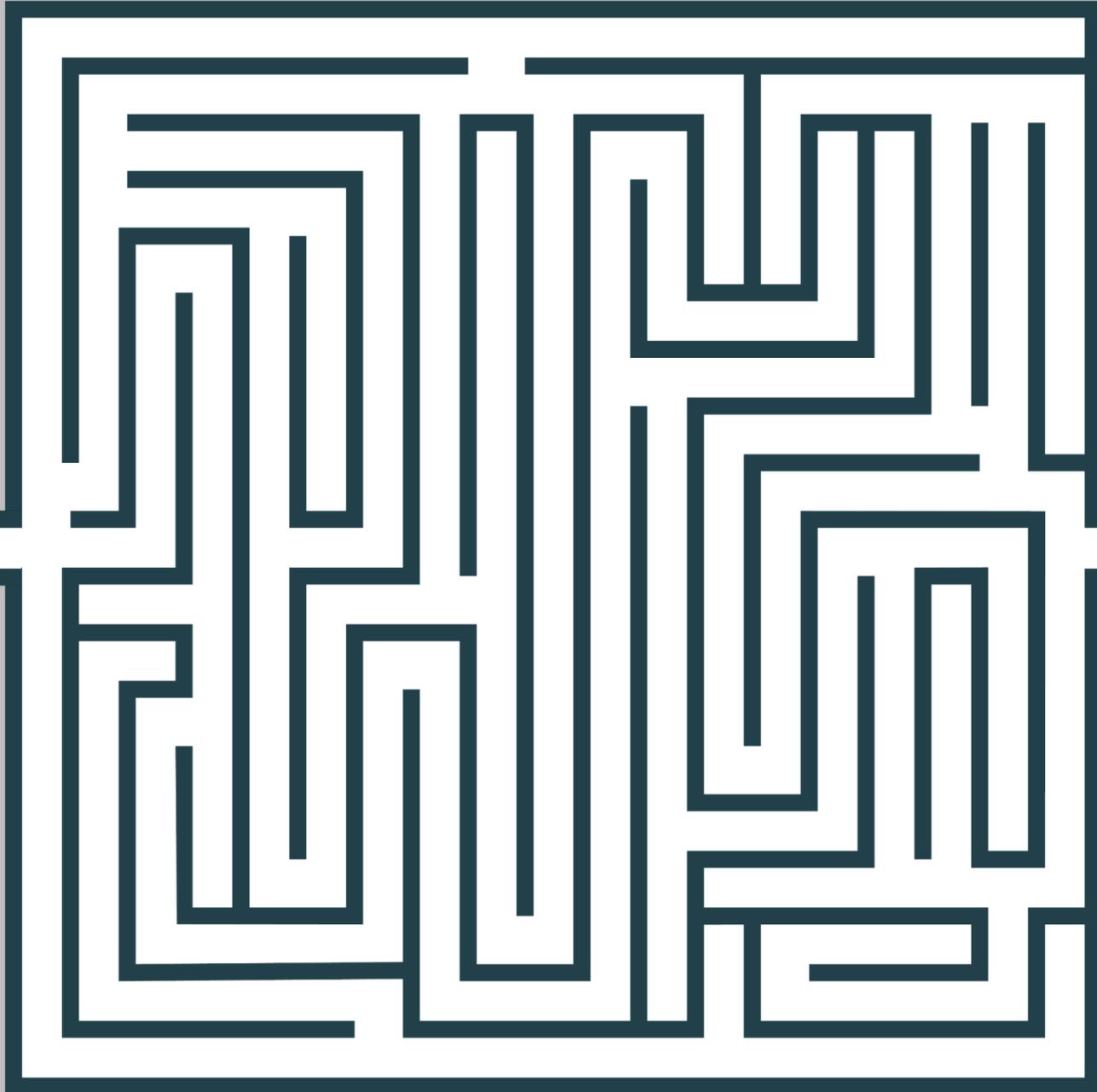
What it could look like – Contact with Moving Plant / Vehicle

Over the last 15 year reversing manoeuvres remain one of the biggest killers in the construction industry but by implementing new technologies, we can help to eliminate the potential risk of vehicles coming into contact with people.

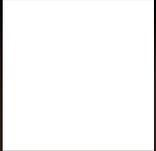
- Ensure safety critical controls (SCC) are developed wherever we are reliant on a human to save a life.
- 3.2 Million reversing manoeuvres protected with SCC on 3 loading shovels – Human recognition camera linked to braking system
- Automatic Near Miss Report from machines – Major Hazard – equipment now contributes to near miss reporting



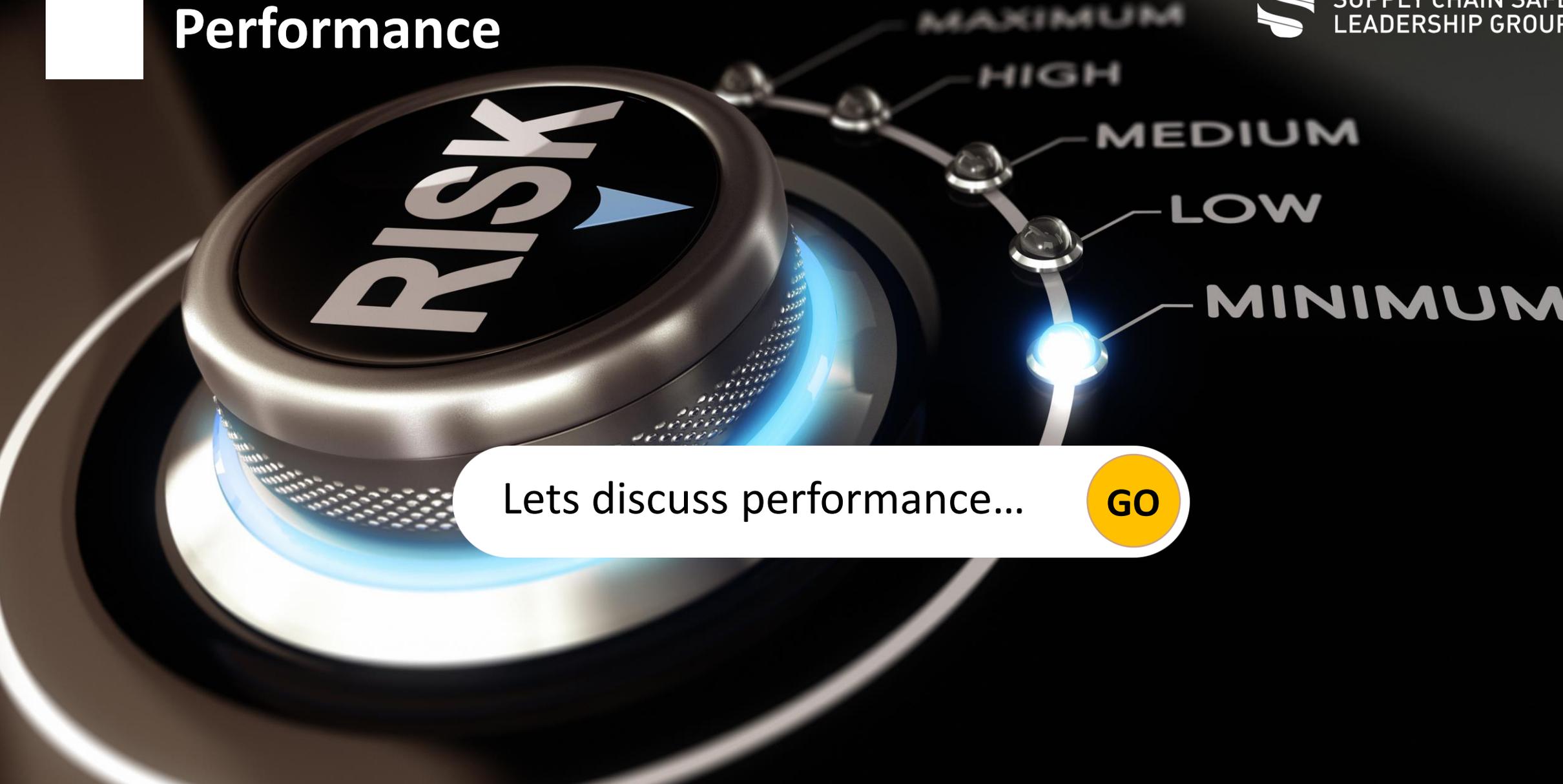
**Reduce the
complexity of
systems &
processes**



**Strip out the
health &
safety clutter!**

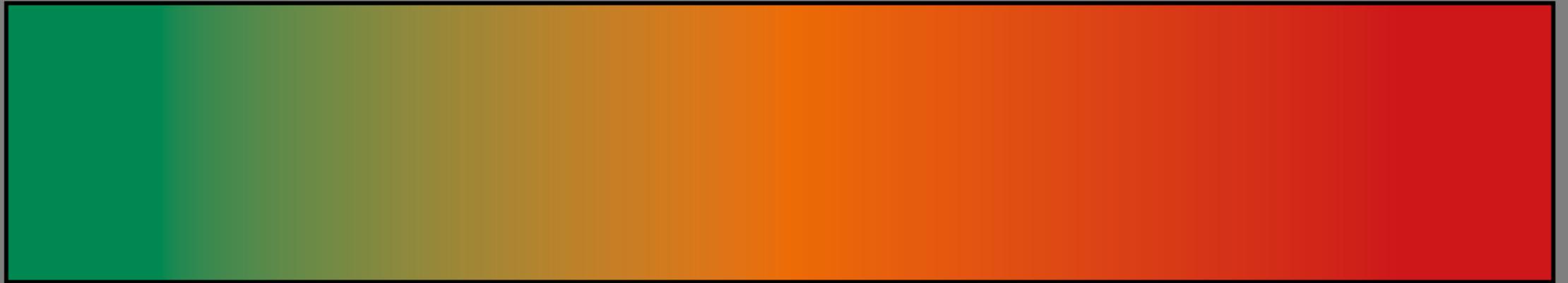


Performance



Lets discuss performance... [GO](#)

LEADING AND CONTRIBUTORY INDICATORS

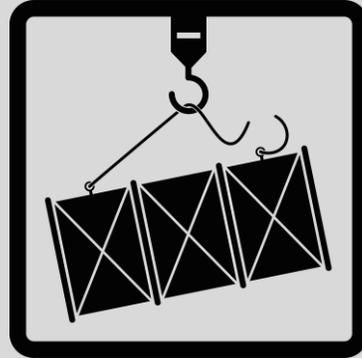


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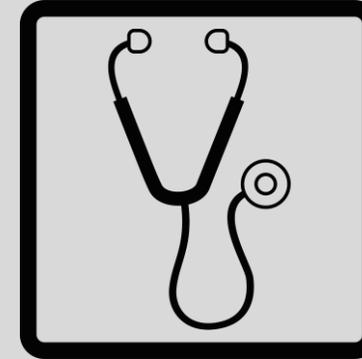




**Incursions +
IPV Strikes**



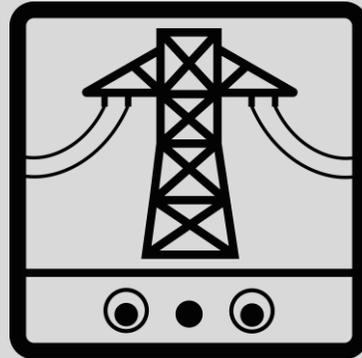
**Lifting
Operation**



**Occupational
Health**



**Occupational
Road Risk**



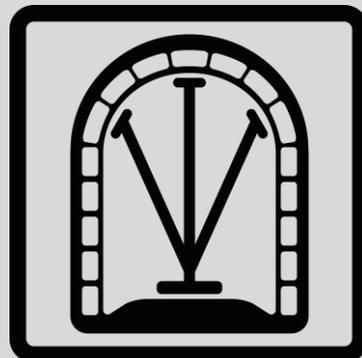
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- Overground
Services**



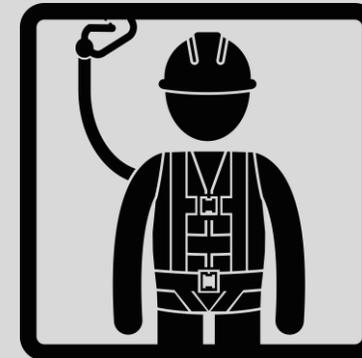
**People Plant
Interface**



**Plant
Turnover**

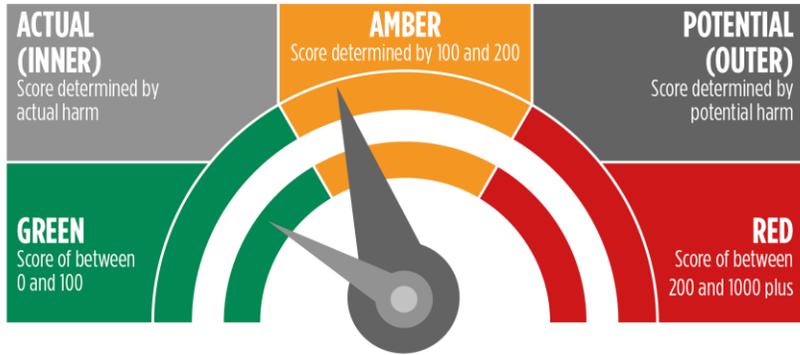


**Temporary
Works**

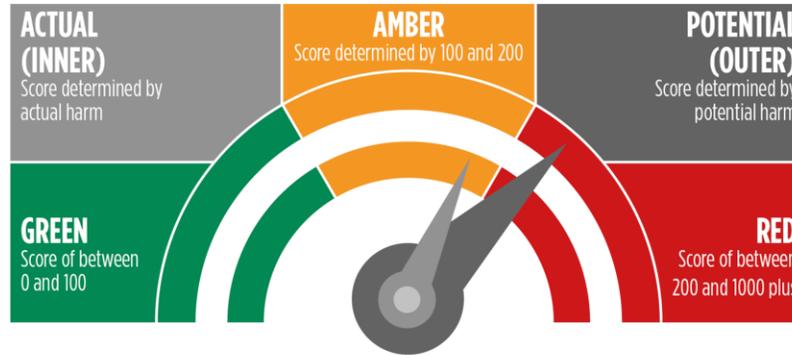


**Working at
Height**

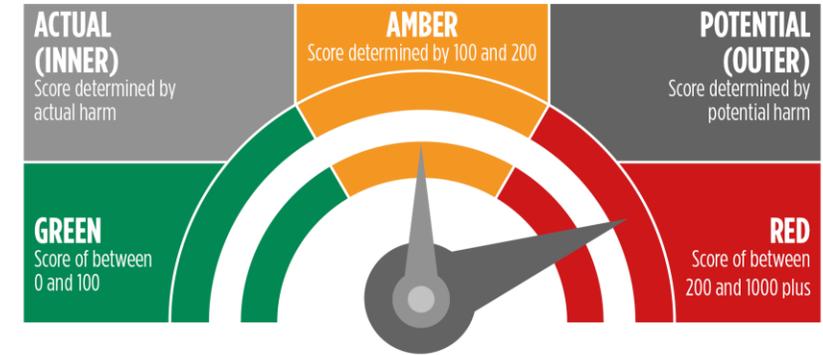
Incursions + IPV Strikes



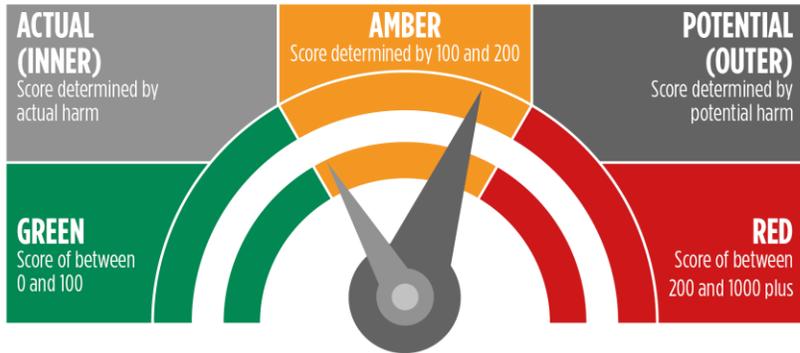
Lifting Operation



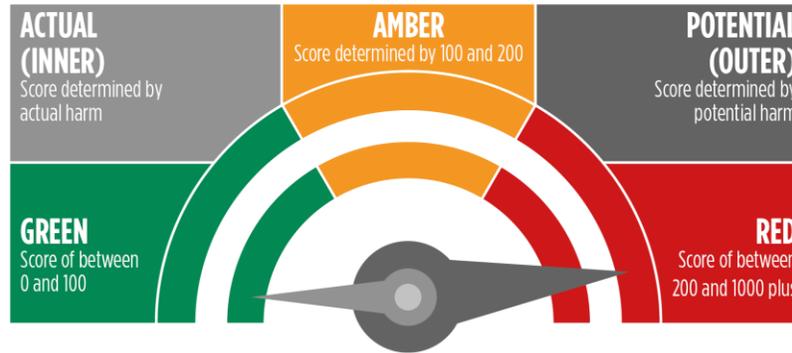
Occupational Health



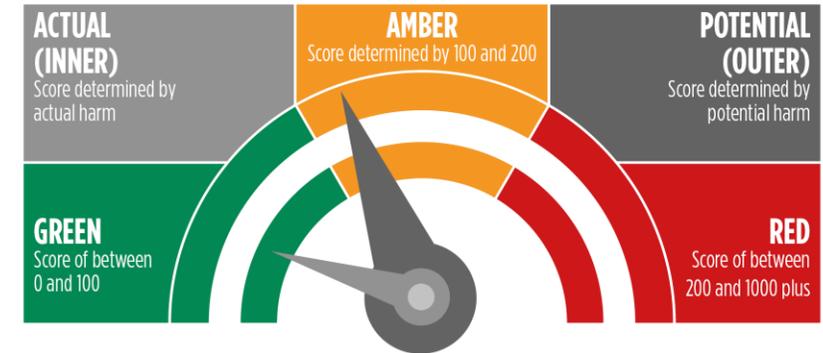
Occupational Road Risk



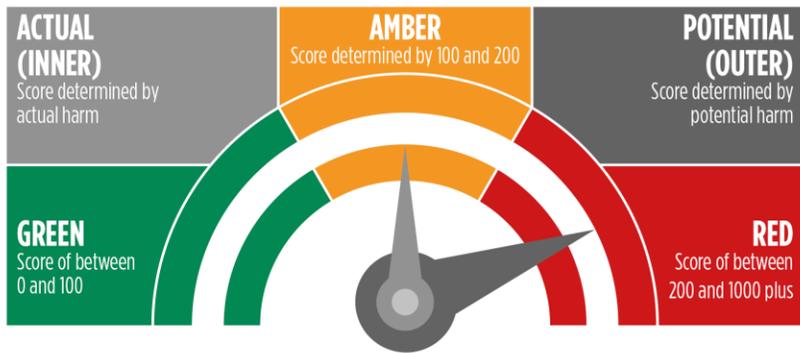
Underground - Overground Services



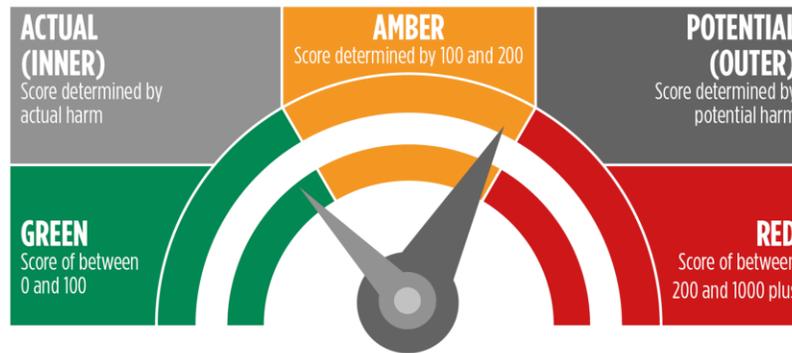
People Plant Interface



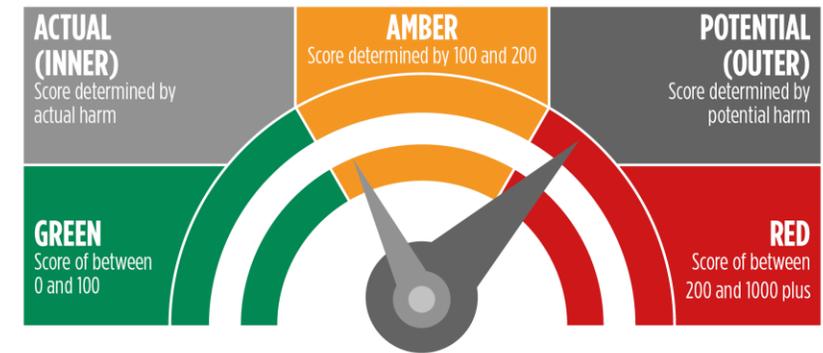
Plant Turnover



Temporary Works



Working at Height





How are we going to measure change?



We need Industry Leading Indicators

Traditional Leading indicators only measure half the journey, they do not ultimately reduce the risk in the organisation or sector, **Looking Good Indicators (LGI's)**, but no Corporate Memory



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Leading Indicators Metrics - Where to Start?

More traditional leading indicators only measure half the journey, they do not ultimately reduce the risk in the organisation or sector, look good (LGI's), but no legacy.

- N° of inspections/assessments/observations
- N° of above completed / the plan
- Training delivered versus planned
- N° of safety interactions/safety briefings
- Safety meetings, training conducted (and v. planned)
- Implementation of action plans resulting from audit findings
- % of incidents investigated
- N° of near misses reported
- % of Risk assessment's completed for critical activities
- % of Bowties completed
- % of corrective actions remediated
- Occupational Health % of critical medicals completed

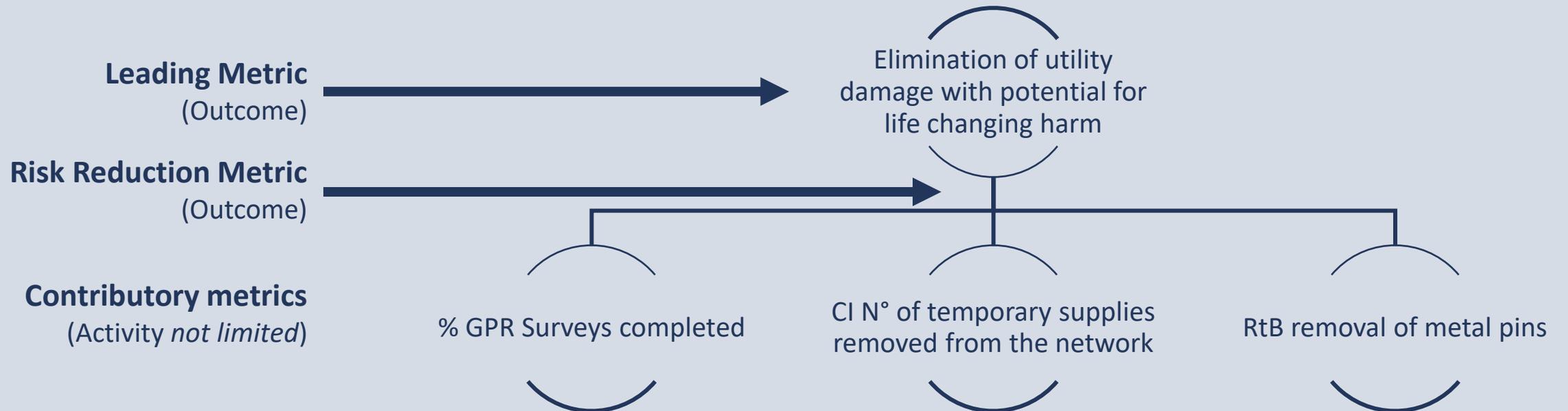
These indicators are often used to provide data that weak signals can be identified from or to understand where the potential failure could occur **(we often fail at this point just collecting data)**

Failure Points For Leading Indicator Metrics....

- Metrics are Not Measurable / Quantifiable
- No relationship between data and plans
- Subjective measurements
- Focus solely on the Management Process and not the Risk Reduction
- They are a secret / not communicated
- Not Attainable
- Do not actually reduce the identified risk to an appropriate level
(Elimination, Substitution, Engineering)

Example of using leading metrics for a safety legacy

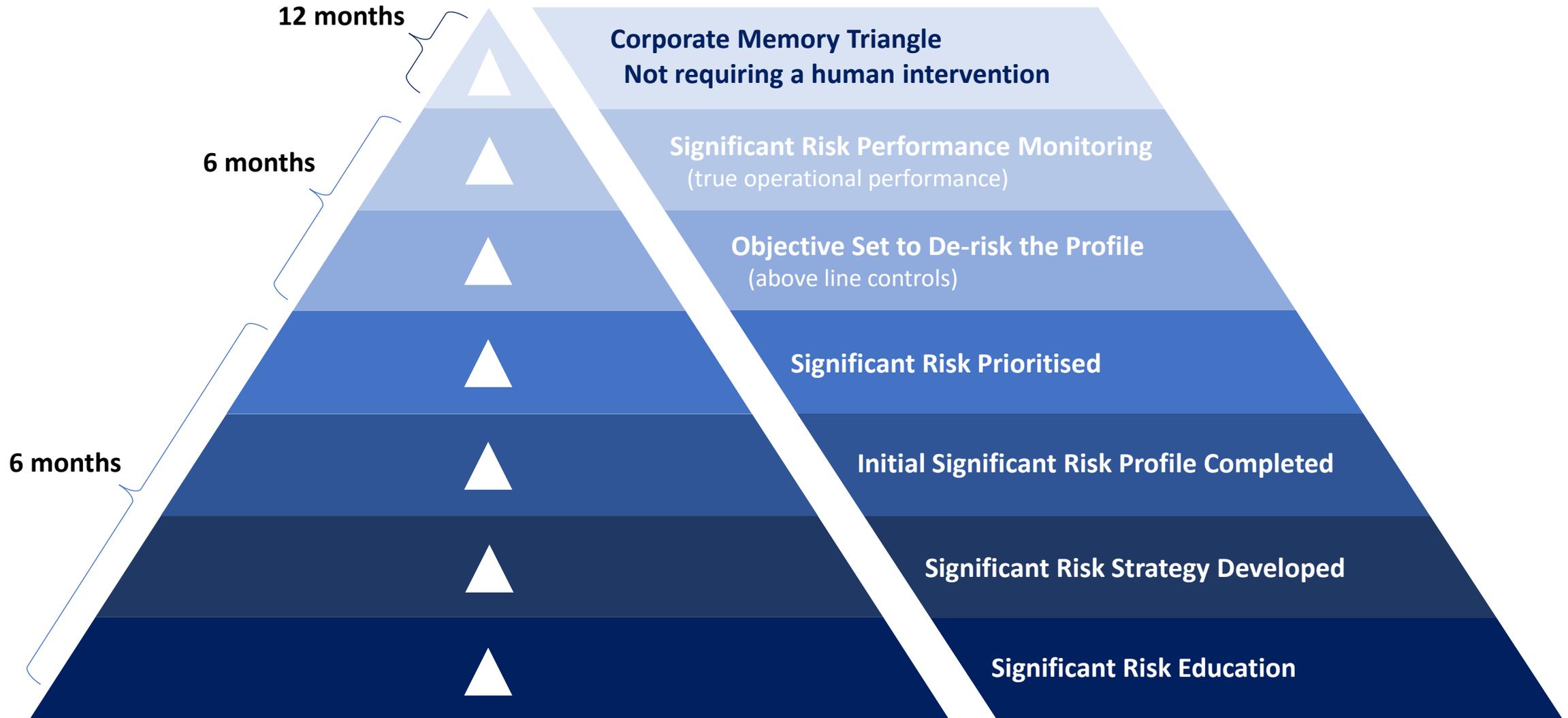
- Ultimate elimination or maximised risk reduction
- Contributory leading indicators broken down to drive change / % risk reduction



■ Our first SCSLG Leading indicator



Leading Indicator : Strategic Direction adopted & evidenced throughout the Supply Chain and National Highways



BMW WITH INTERVENTION
MEMBER OF THE REPUBLICAN
SOCIETY OF ORGANIZATIONS
MEMBERSHIP
MEMBERSHIP TOGETHER



Plan Moving Forward!



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- *Technical Webinar*
- *People Plant Interface*
- *Need to Deliver the First Leading Indicator*
- *Health & Safety in Design*
- *Incursion + IPV Strikes*
- *Occupational Road Risk*
- *Occupational Health*

What Will You See Next:





Thank You

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 national
highways

