Safety's Flux Capacitor:

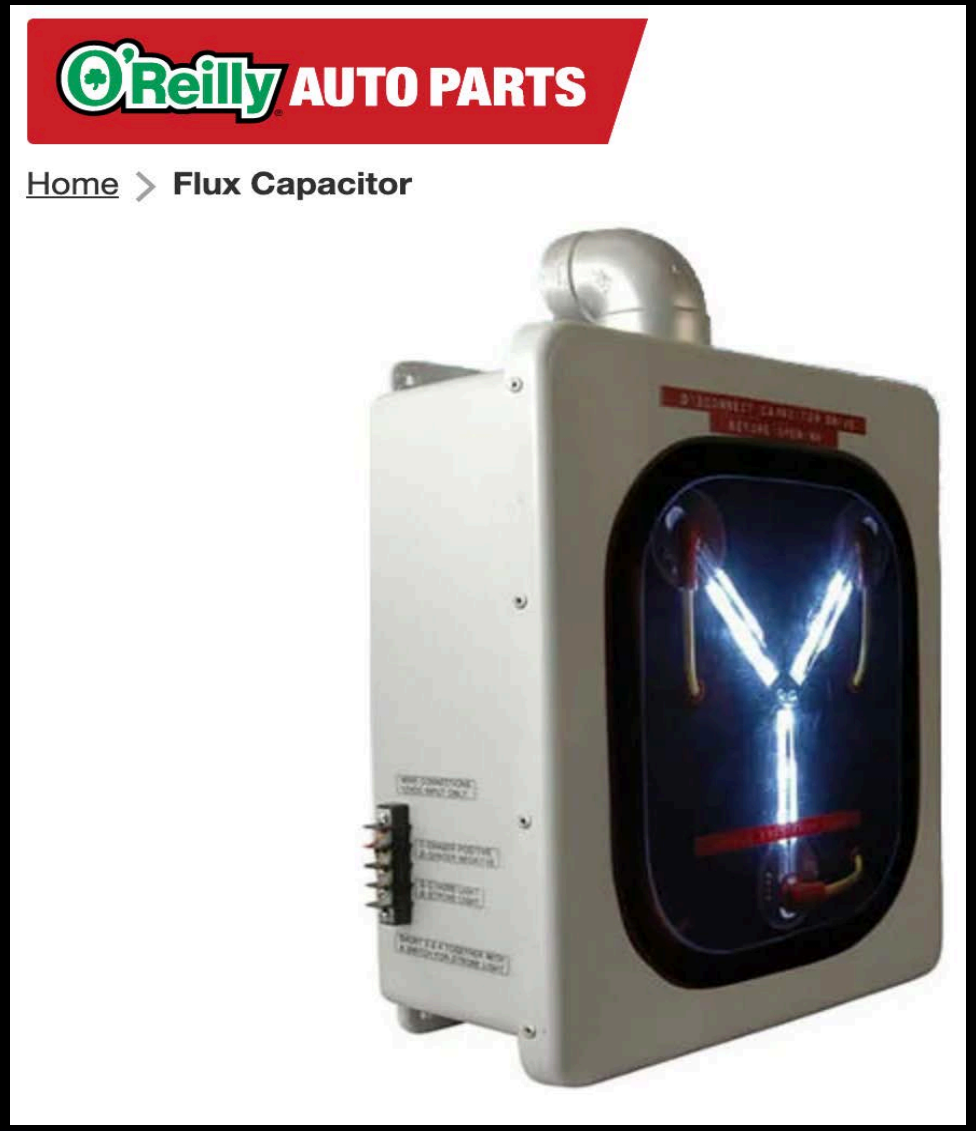
Learning from the Past and Present Determines Your Future!

Danny W Smith, SMS, CIT

Senior Consultant - SafeStart

O’Reilly’s Part #121g

- This item is not available for purchase
- Time travel at your own risk
- Plutonium is required to properly operate (not included)
- Requires the stainless steel body of a ‘81 – ’83 DeLorean DMC-12 to properly function

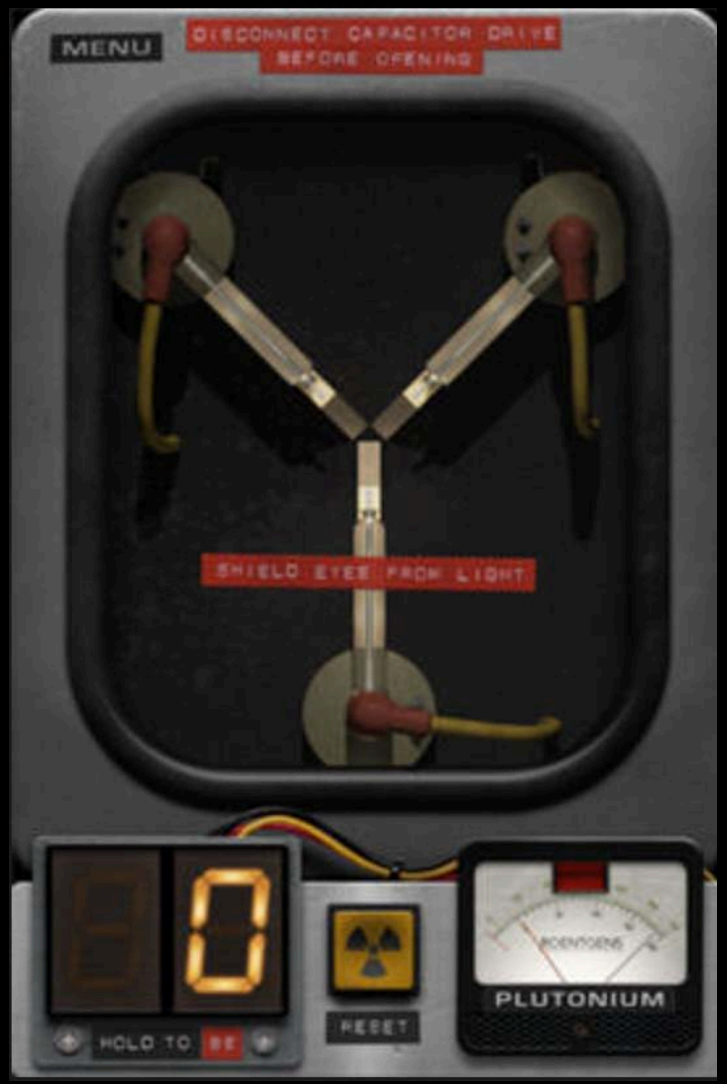


* Nonfunctioning item – for entertainment purposes only

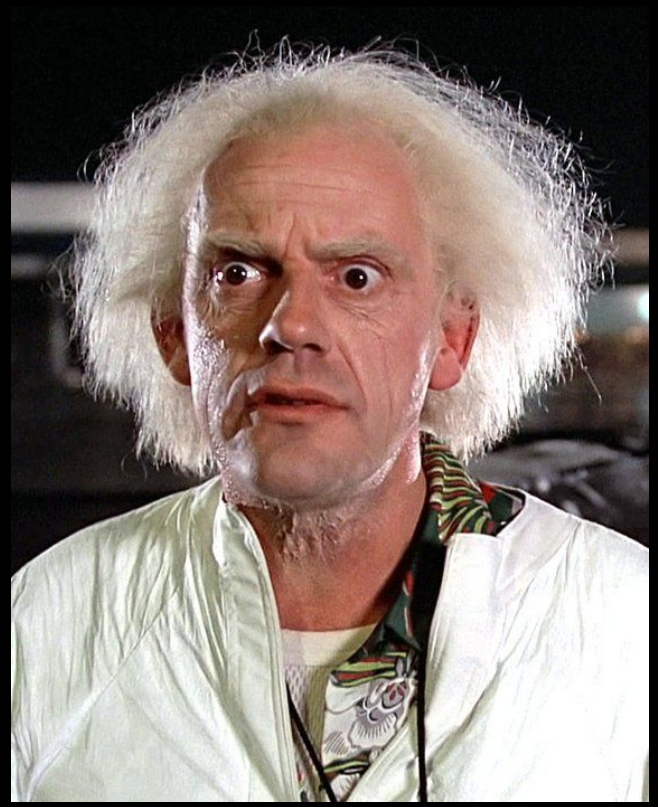
“A problem well stated is a problem half solved”

- Charles Kettering

Major Organizational Challenges



“Don’t worry.
As long as you hit that wire
with the connecting hook at precisely
eighty-eight miles per hour
the instant the lightning
strikes the tower…
everything will be fine!”



Let’s Start With the Past – Just like Doc and Marty

Let’s Start With the Past - Just Like Doc and Marty

- Pre-1940s
  - Trial-and-error
  - Aircraft manufacturing – “fly-fix-fly”
- 1941 – NSC ”2 out of 3 accidents have both personal and mechanical causes”

Let’s Start With the Past - Just Like Doc and Marty

- 1950’s
  - Heinrich’s pyramid
  - Domino theory
  - Thought process that management can institute systems to prevent unsafe acts
  - NSC introduced the Hierarchy of Controls – ”controlling exposures to occupational hazards is the fundamental method of protecting workers.”

Let’s Start With the Past - Just Like Doc and Marty

- Move forward through time
  - 70’s – some activity, but mostly compliance with OSHA’s creation
  - 80’s – James Reason’s Swiss cheese model
  - 90’s – BBS Observation programs (STOP, BST, Safety Performance Systems, SafeTrack, and etc.)
  - Late 90’s – Larry Wilson with SafeStart (awareness and skills) and Scott Geller (People Based Safety/Actively Caring)
  - 2000’s – 2020’s – Dekker/Reasons (Just Culture), Hollnagel (Safety 2) and Conklin/others (HOP)

“All extremes are dysfunctional”

- Unknown

Where Are We Today?

As a profession, we've become very polarized!

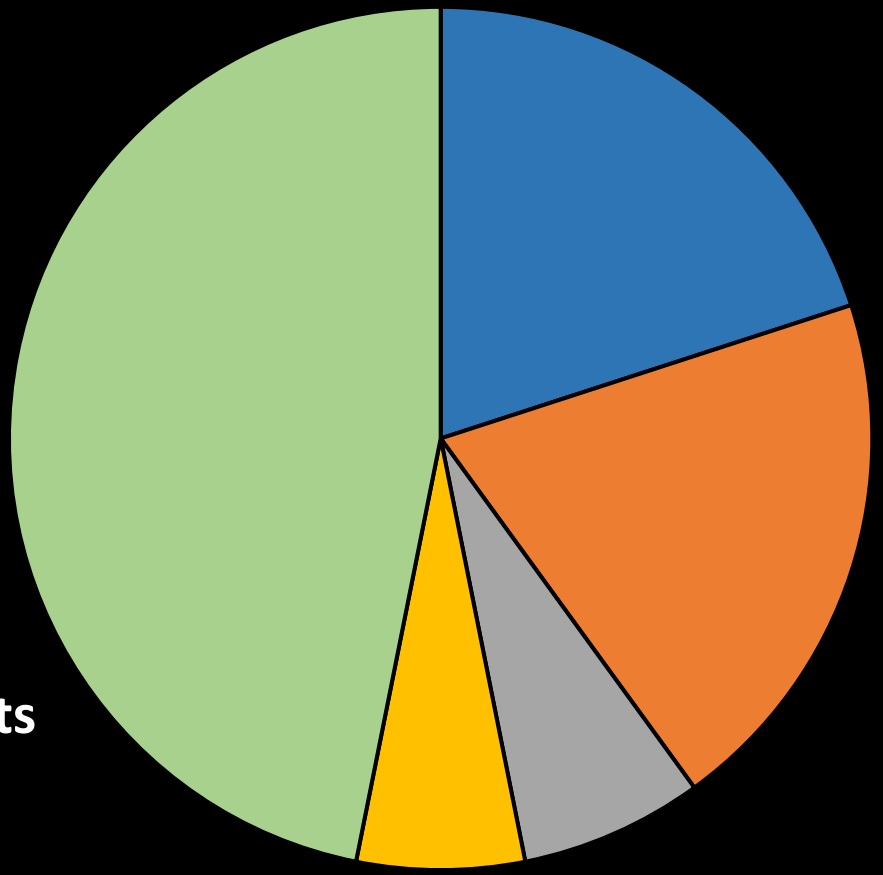



Compliance vs. Awareness vs. BBS Obs. vs. HOP

Where Are We Today?

Q1 – Which safety philosophy do you lean towards?

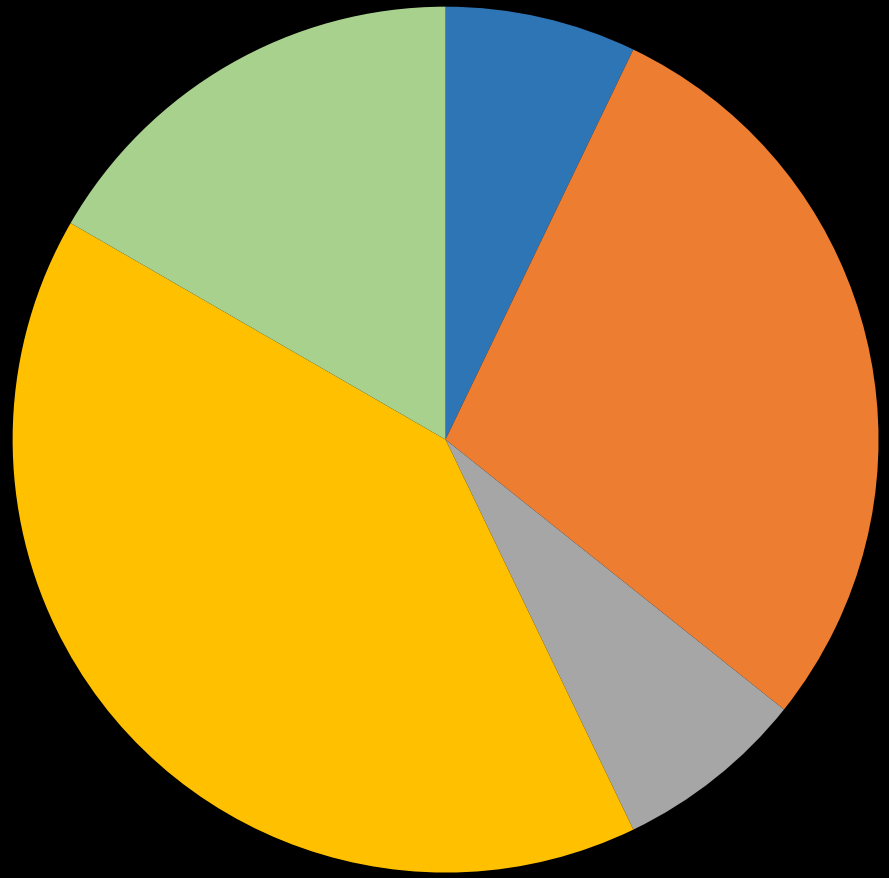
- Combined elements from various ideas
- HOP, Safety 2, New View
- Behavior Based Safety (BBS)
- Human Error Reduction Techniques
- We're barely meeting compliance requirements



2021 Survey by Tim Page-Bottorff, CSP, CIT

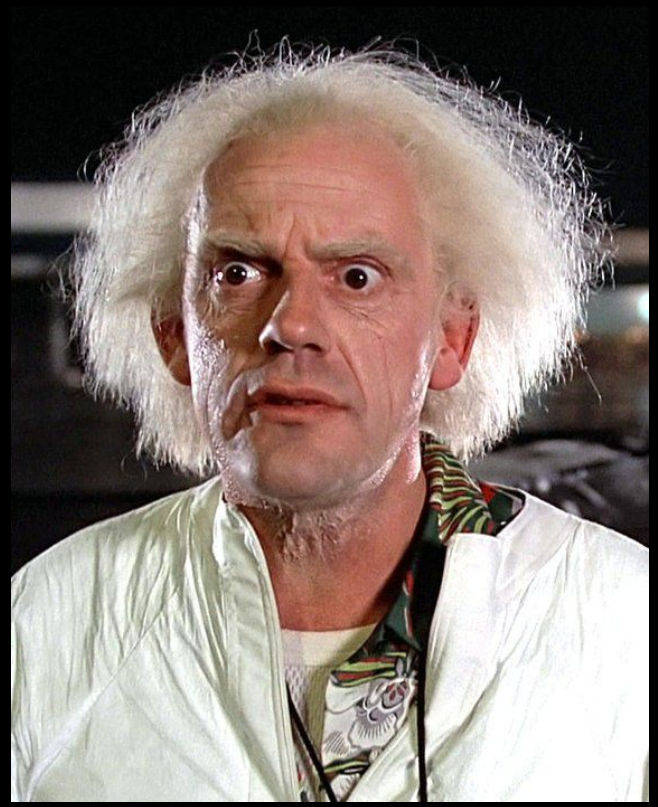
Where Are We Today?

Q7 – Is there a safety philosophy that receives more negativity than others?



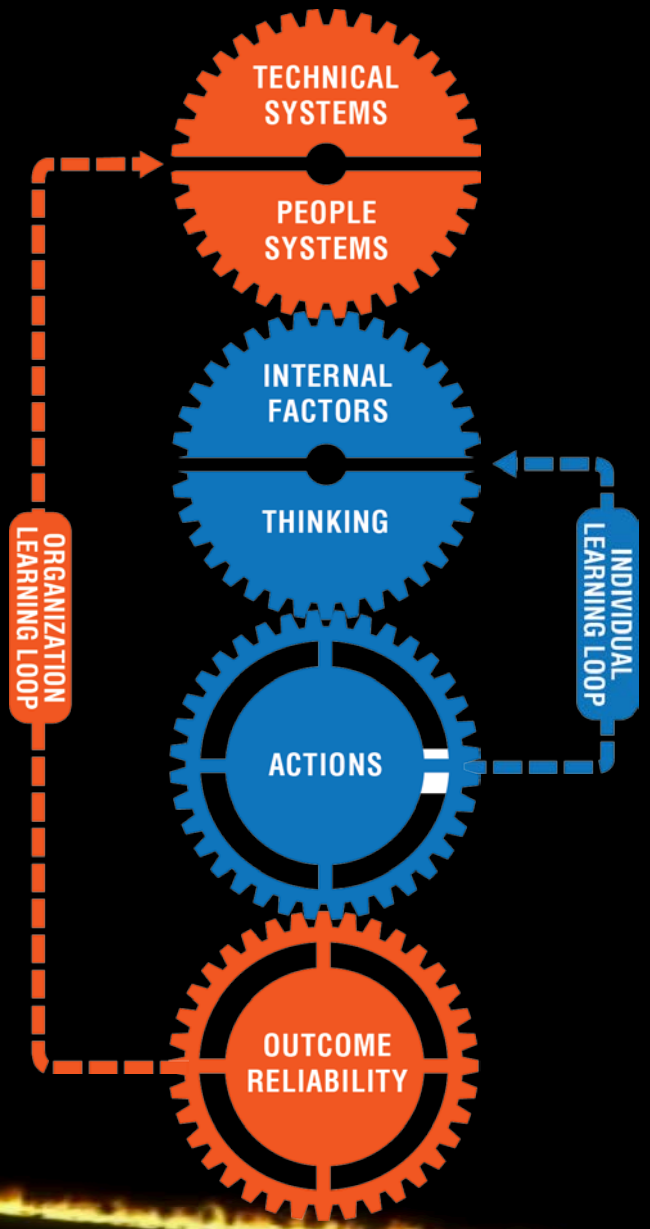
2021 Survey by Tim Page-Bottorff, CSP, CIT

“Roads?
Where we’re going,
we don’t need any roads!”

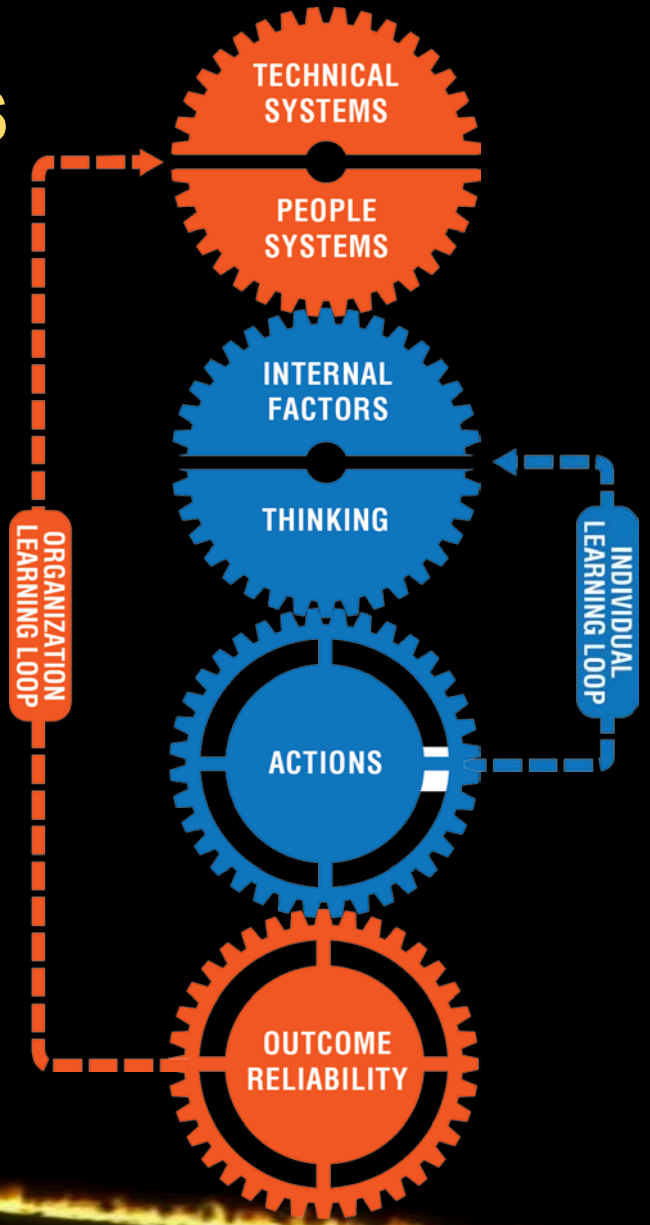


Human Factors Framework: The Future is Here

- In order to be truly holistic, we need input from all areas!
- Attempting to solve an internal, human factor issue with a technical system may or may not work.
- You also can't fix a technical issue by only looking at individual actions!



Major Organizational Challenges



What Are Human Factors?

Human factors are the people elements of systems and conditions that influence performance and reliability

What Are Human Factors?

- The physical or mentals states that affect how people
  act and think
- Frequently the cause when people deviate from normal behavior
- Embedded in organizational systems
- Part of being human, they don’t go away!

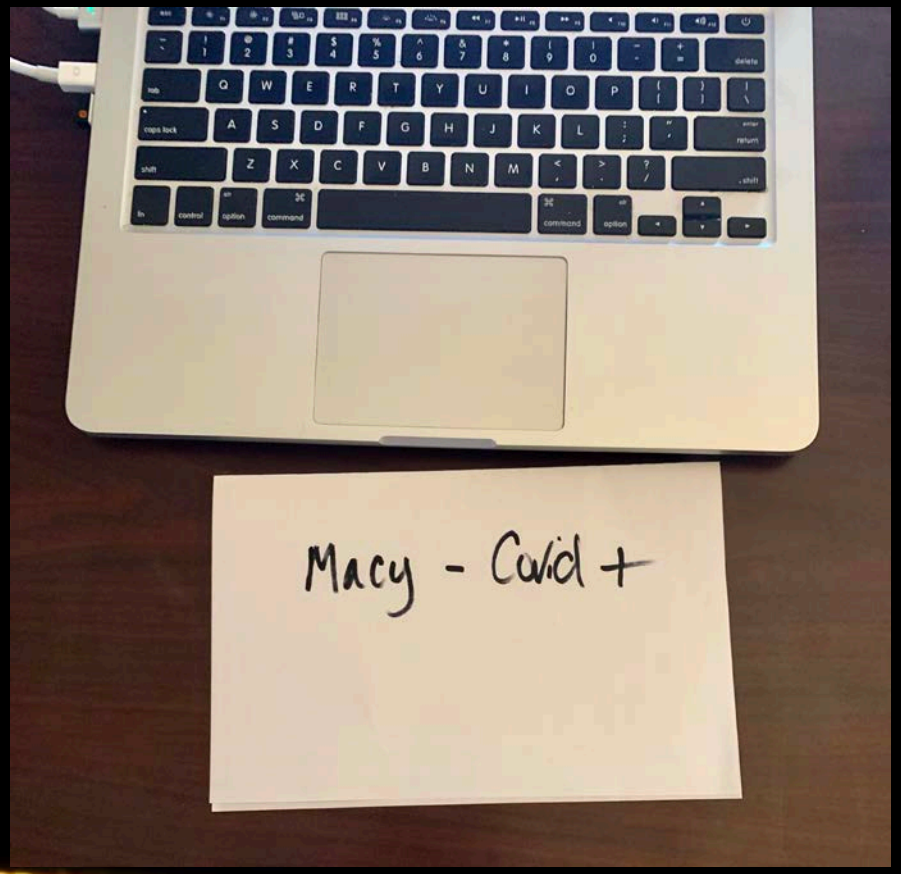
“Calvin?
Why do you keep
calling me Calvin?”

“Well that is your name,
isn’t it? Calvin Klein?
It’s written all over
your underwear.”

Human Factors in the Workplace

- As long as there are people in the workplace, their safety and performance will be affected by human factors.
- These can be physical, like being tired or sick.
- They can also be mental such as those times when we are frustrated or distracted.

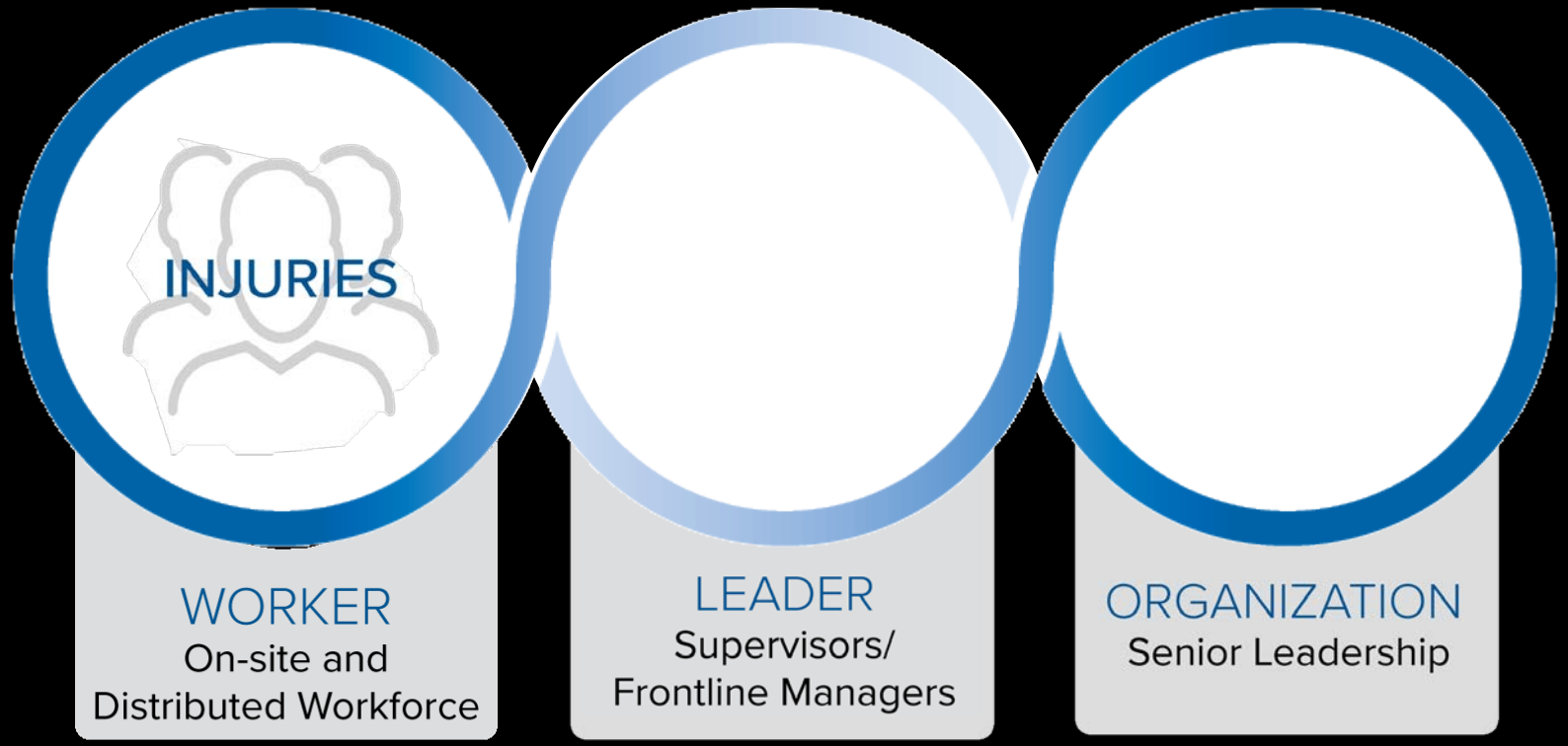
What Are Human Factors?

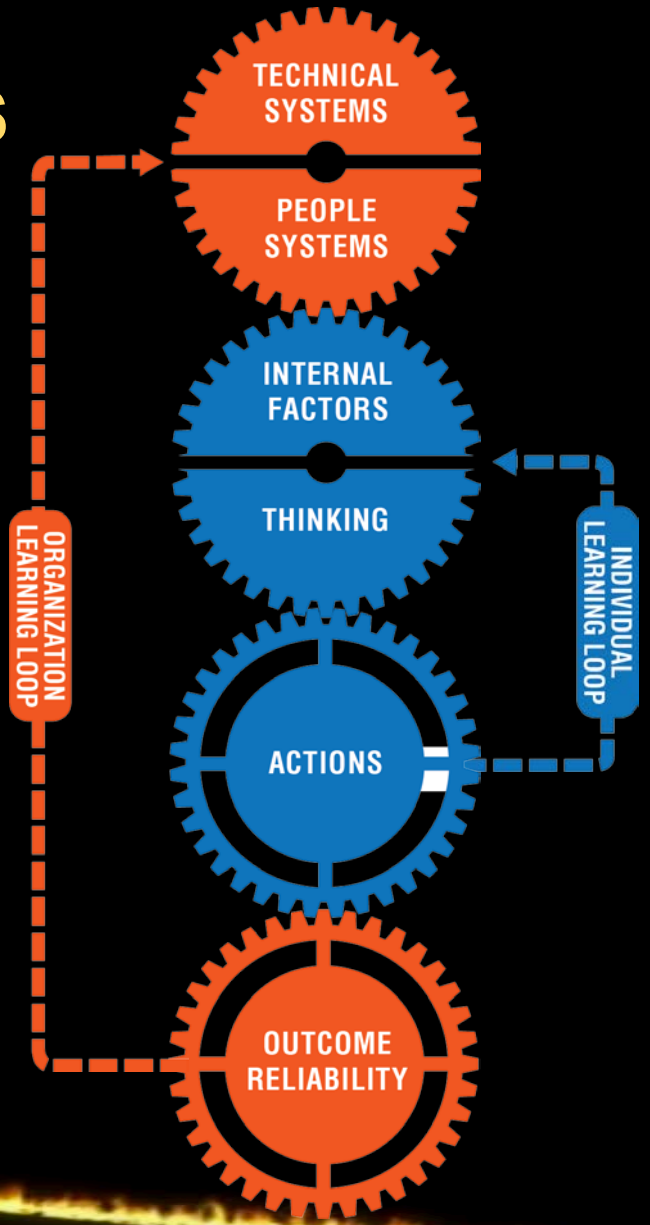


Not All Human Factors Are Negative!

- If you have a very attentive worker who is highly skilled and experienced, they may notice things that others might miss and prevent a safety or production problem before it happens or gets worse.

Major Organizational Challenges





How Organizations Try To Reduce Injuries

- Eliminate or guard hazards
- Safety rules, regulations, policies and procedures
- Training on specific workplace hazards
- PPE
- Other compliance measures

Is This Approach Enough?

- Doing more for fewer results
- Escalating effort, time and money
- Compliances goals already met
- Safety systems don’t address human factors

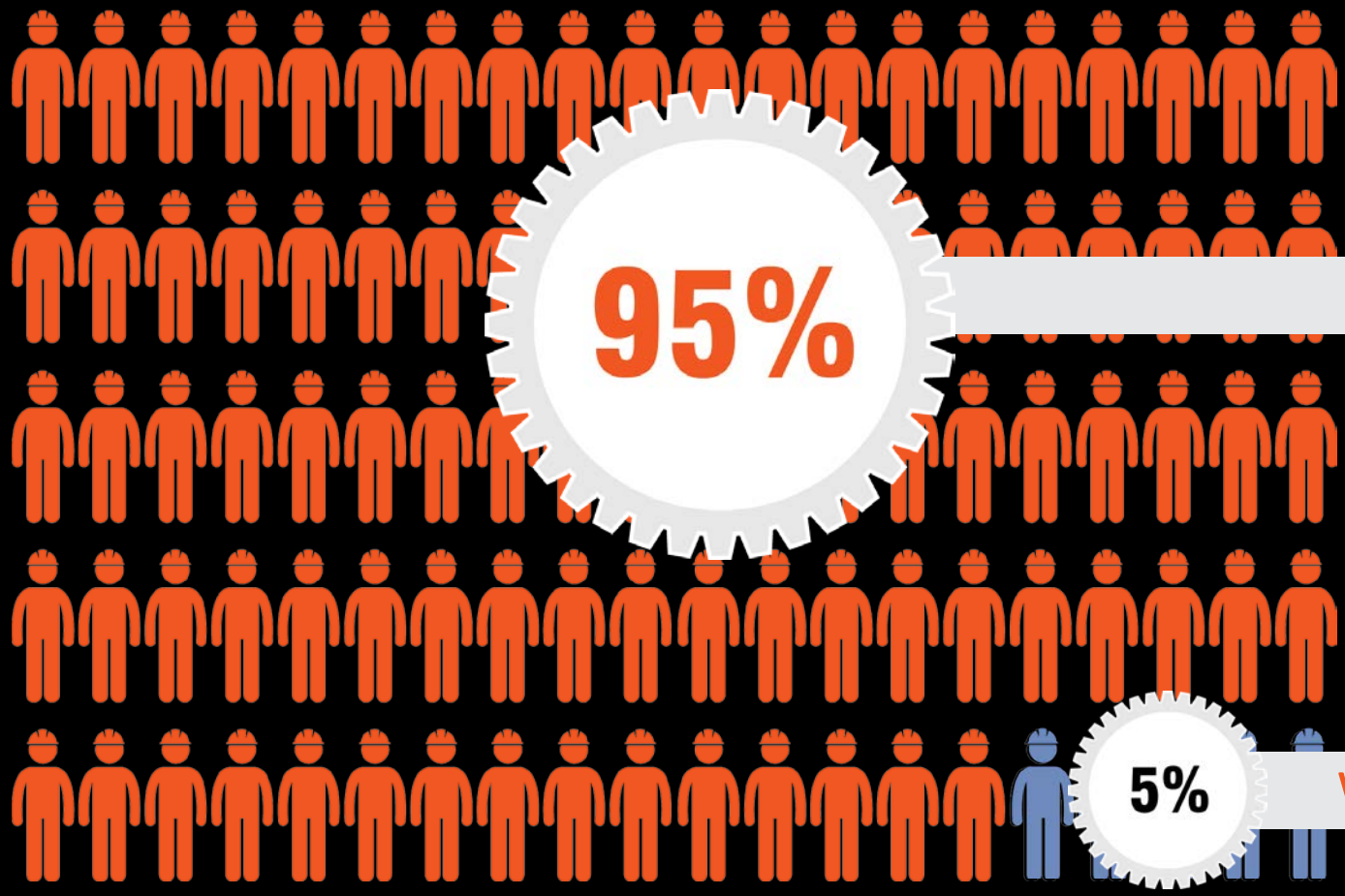
(They may be identified in a risk assessment,
but rarely is guidance given on how to manage them)

Challenge: Same Common Injuries Year After Year

- Take a moment and write down the most dangerous activities you've ever done
- Now write down your most serious injuries you've ever had
- Did anyone have a match?
- Why do you think this isn't the case?

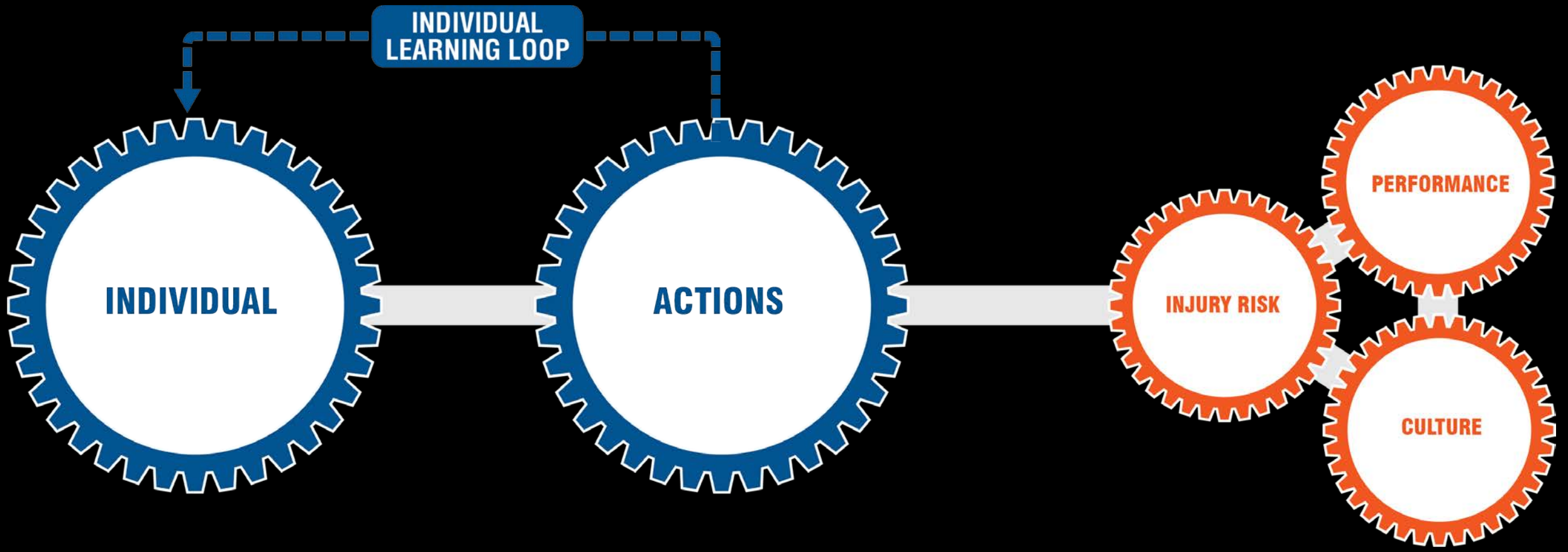
Challenge: Same Common Injuries Year After Year

- For most people, our worst injuries usually aren't caused by the most dangerous activities or tasks
- Injuries happen when we no longer perceive something as hazardous
- How much time, effort and money is wasted trying to solve the wrong problem?



WHERE COMPANIES MISSED FOCUS

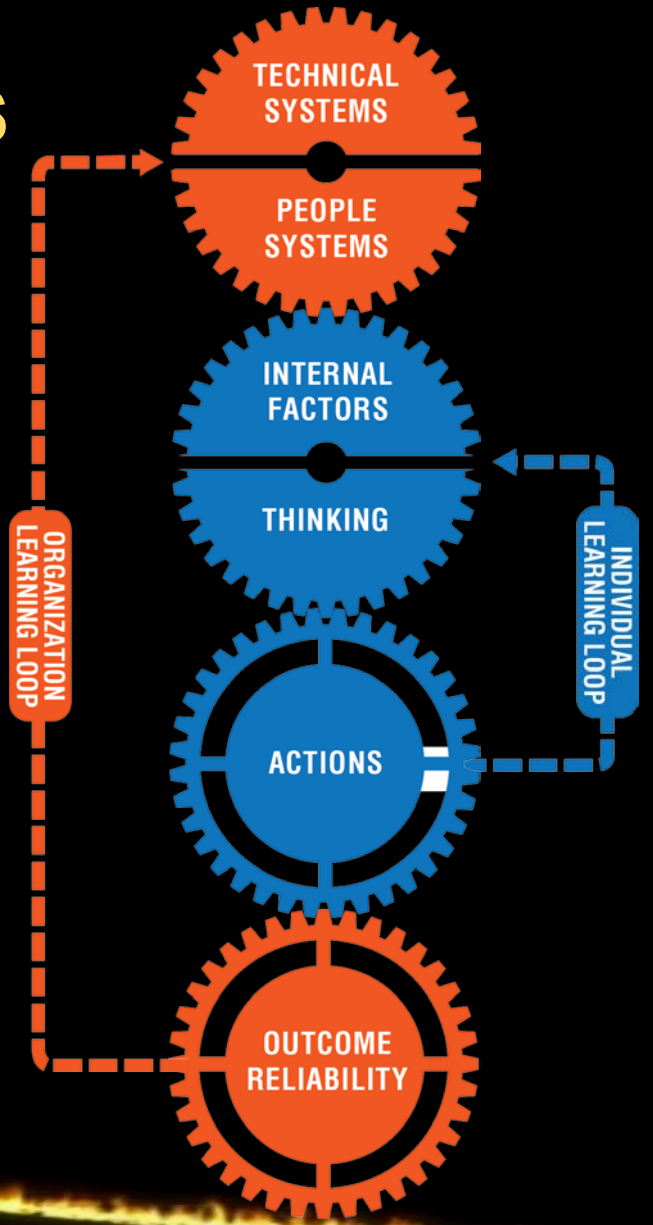
WHERE COMPANIES USUALLY FOCUS


INDIVIDUAL LEARNING LOOP
INDIVIDUAL
ACTIONS
INJURY RISK
PERFORMANCE
CULTURE

Since human factors are involved in 95% of all organizational performance outcomes, including safety...

what practical skills have been given to our employees to help address these issues?

Major Organizational Challenges



Engagement Drives Performance
(and most people are "engageable")

65

Median score on 1-to-100 scale to the question, "How happy are you at work?"

"There is no job-despising contagion spread across the majority of the U.S. workforce. Most people are happy at work. Most people like their jobs. Most people are intent on doing good work for their employers. The engagement sky is not falling."

- Rodd Wagner, Forbes, April 27, 2017

Engaged Teams Perform Better!

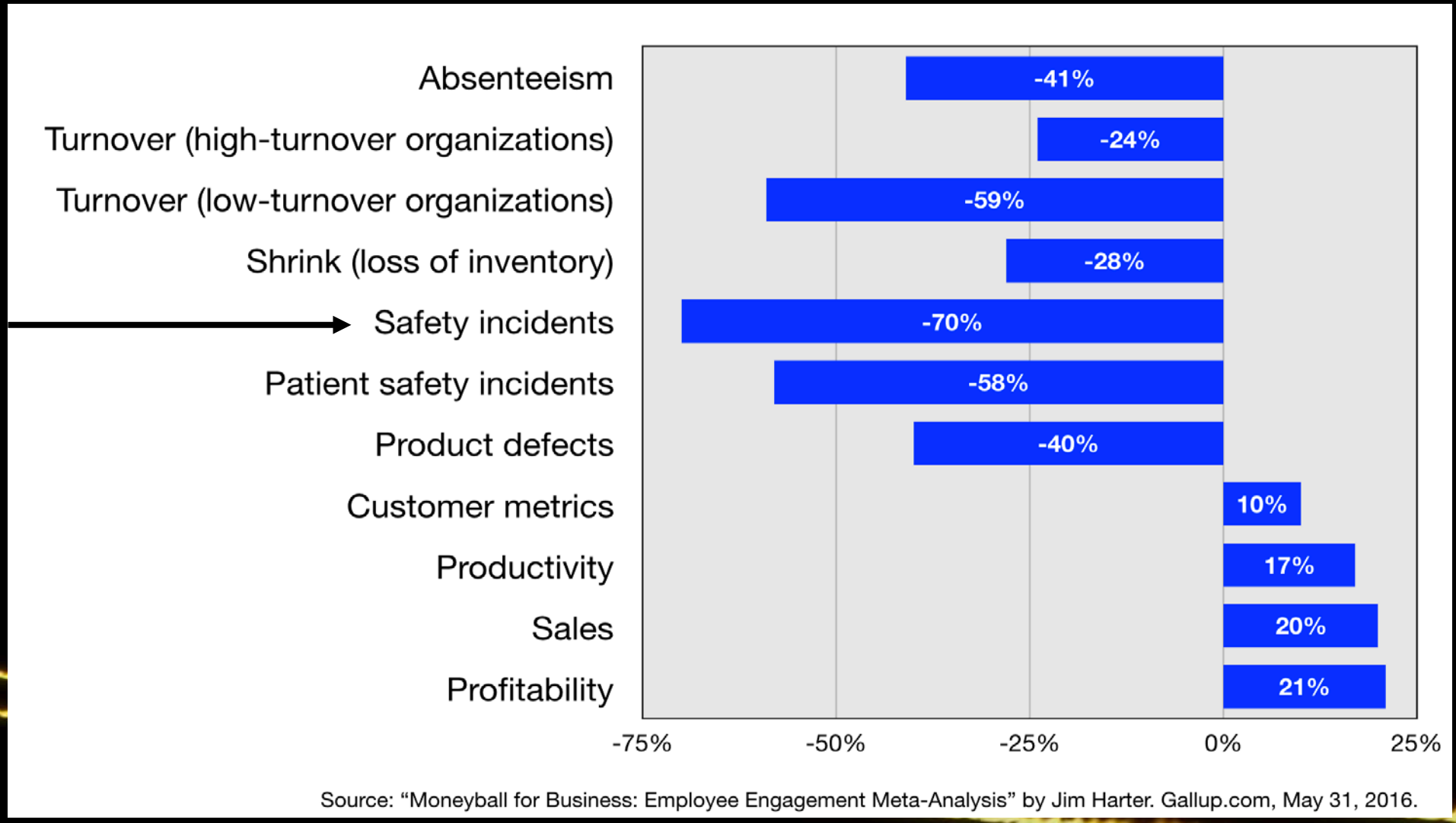
- 24% - 59% less turnover
- 17% higher productivity
- 21% greater profitability
- 70% fewer accidents
- 41% less absenteeism

Gallup

“Why don’t you make like a tree and get outta here?”

Engaged Employees Are Less Likely To Be Injured

Depending on the year in which the analyses are conducted, safety is often the business outcome most correlated with high engagement.



Source: “Moneyball for Business: Employee Engagement Meta-Analysis” by Jim Harter. Gallup.com, May 31, 2016.

Engaged Teams Perform Better!

- The value of engagement is imperative to a thriving culture.
- Unfortunately, Gallup also found actively disengaged employees outnumber engaged employees by a nearly 2:1 ratio.
- Disengagement impacts employee loyalty, which can affect turnover, which can cost 1.5x the salary of the

Challenge – The Lack of Employee Engagement

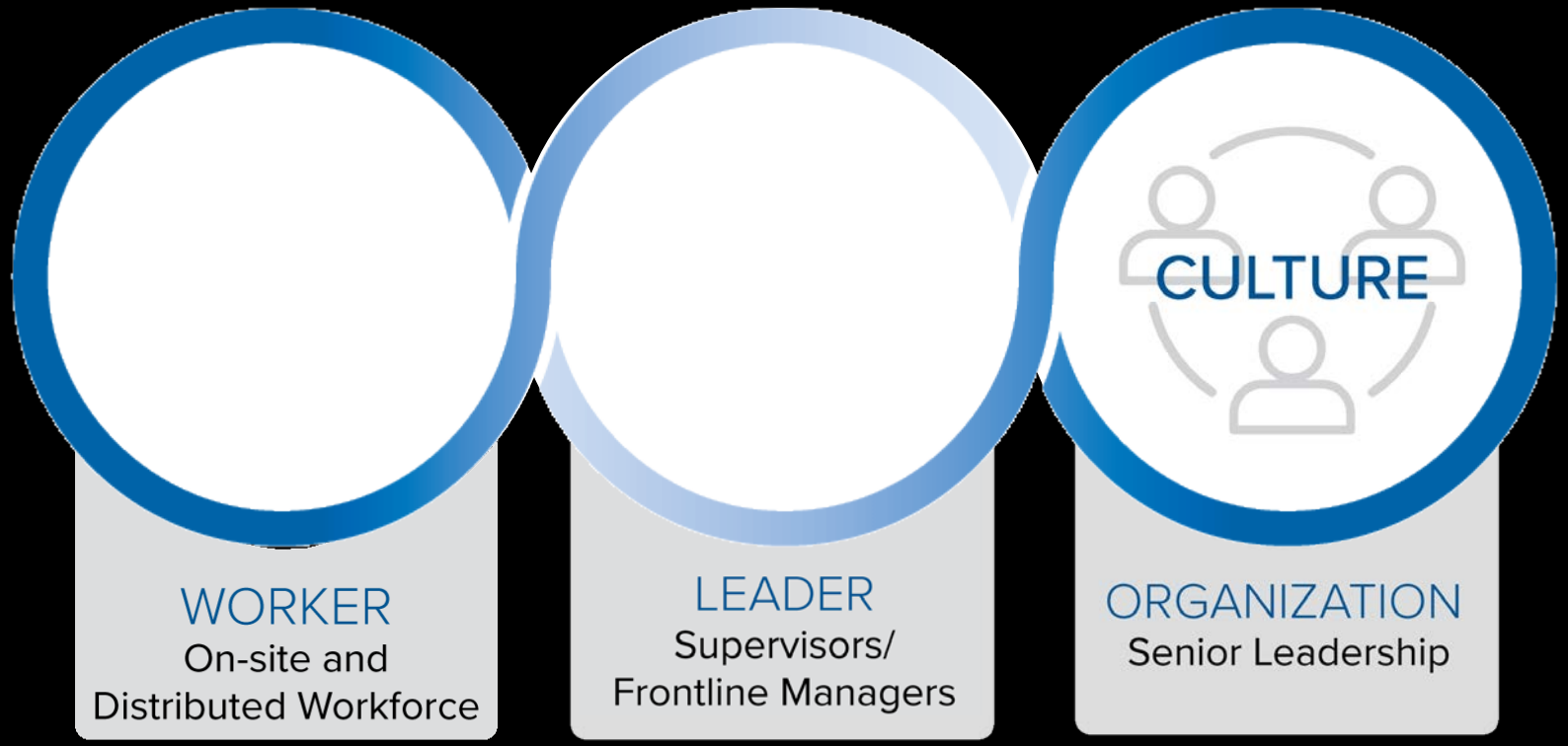
- Often there is no common safety language
- People avoid uncomfortable situations
- Repetitive compliance training
- Promotions are based upon job success, not the ability to communicate effectively

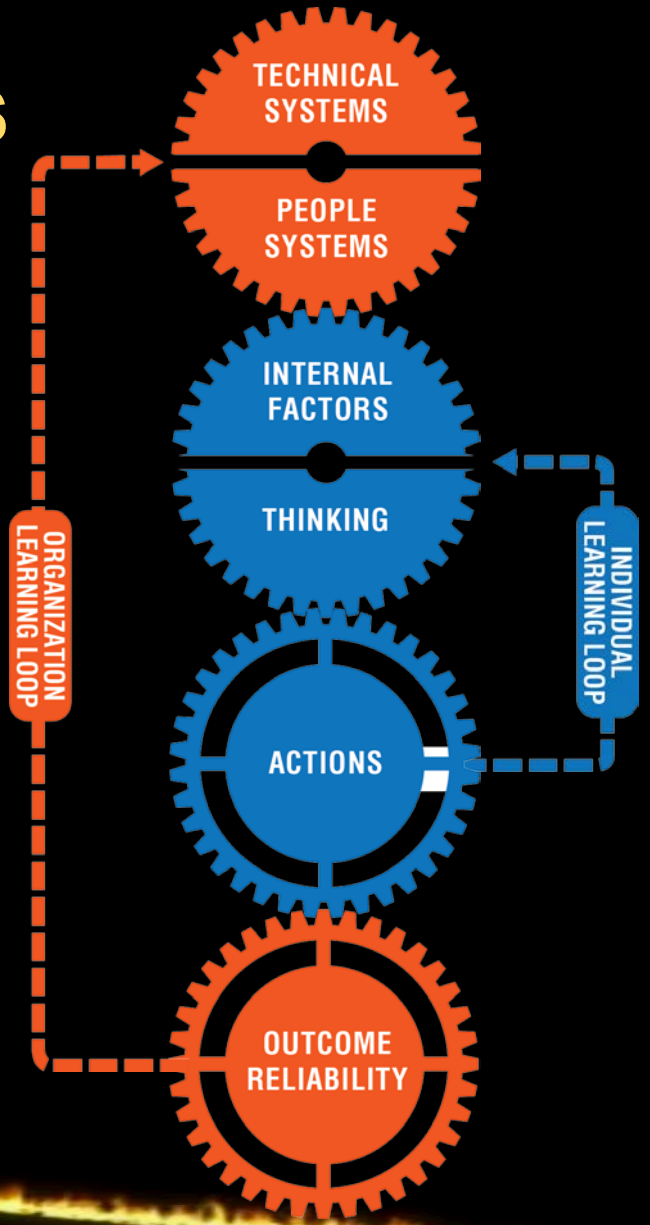
Survey from BLR suggest 53% of employees are not engaged in the safety program.

Quote From A Client

“When promoting supervisors from previous job success, we’d lose our best welder and gain our worst supervisor.”

Major Organizational Challenges





“I hate manure”

Culture vs Climate

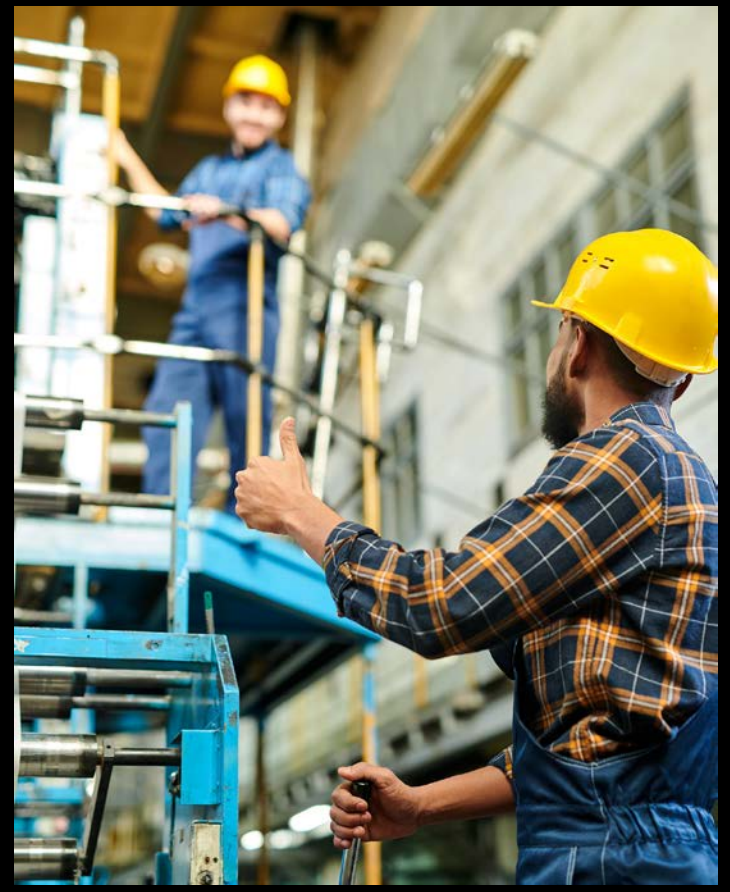
Culture: The way things are done around here.

- **The value placed on safety and degree of personal accountability for safety**
- **The safety personality of an organization**
- **What people value and believe**

Culture vs Climate

Climate: ”How things feel around here these days…”
narrow focus

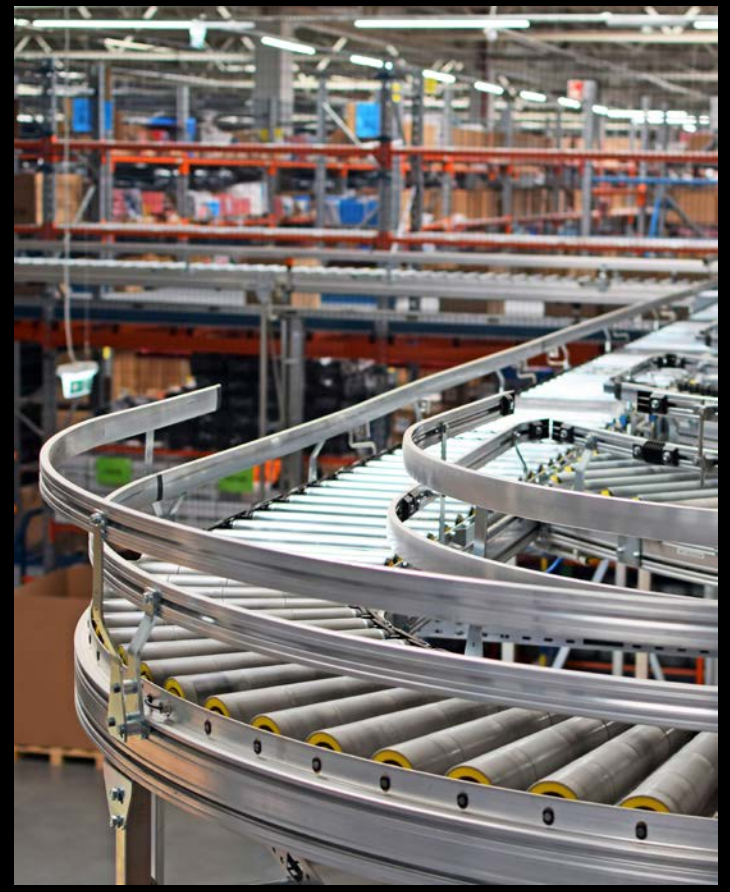
- **The perceived value of safety today**
- **Can be influenced by other people’s opinions, attitudes and actions**
- **Changes based on circumstances (production cycles, major incidents, turnover, employee promotions)**



Culture vs Climate

Typical changing climate examples:

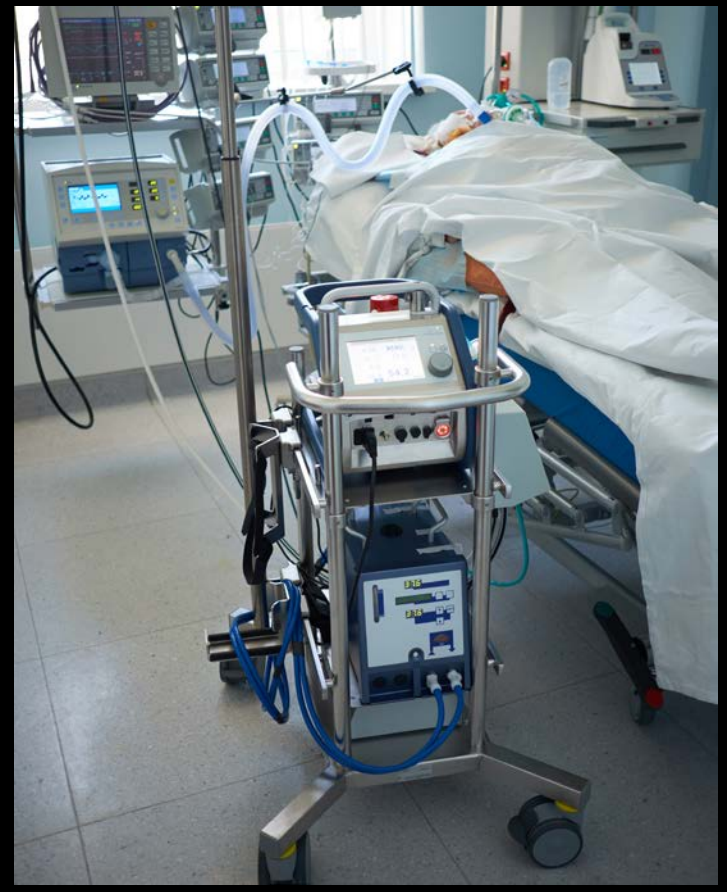
- **Boss being in a bad mood**
- **A new rush order**
- **A line being shut down unexpectedly**
- **An experienced team member being out sick**



Culture vs Climate

New-world climate changing examples:

- **Distributed workforces**
- **Stress about job security**
- **Getting sick**
- **Knowing someone who is sick**

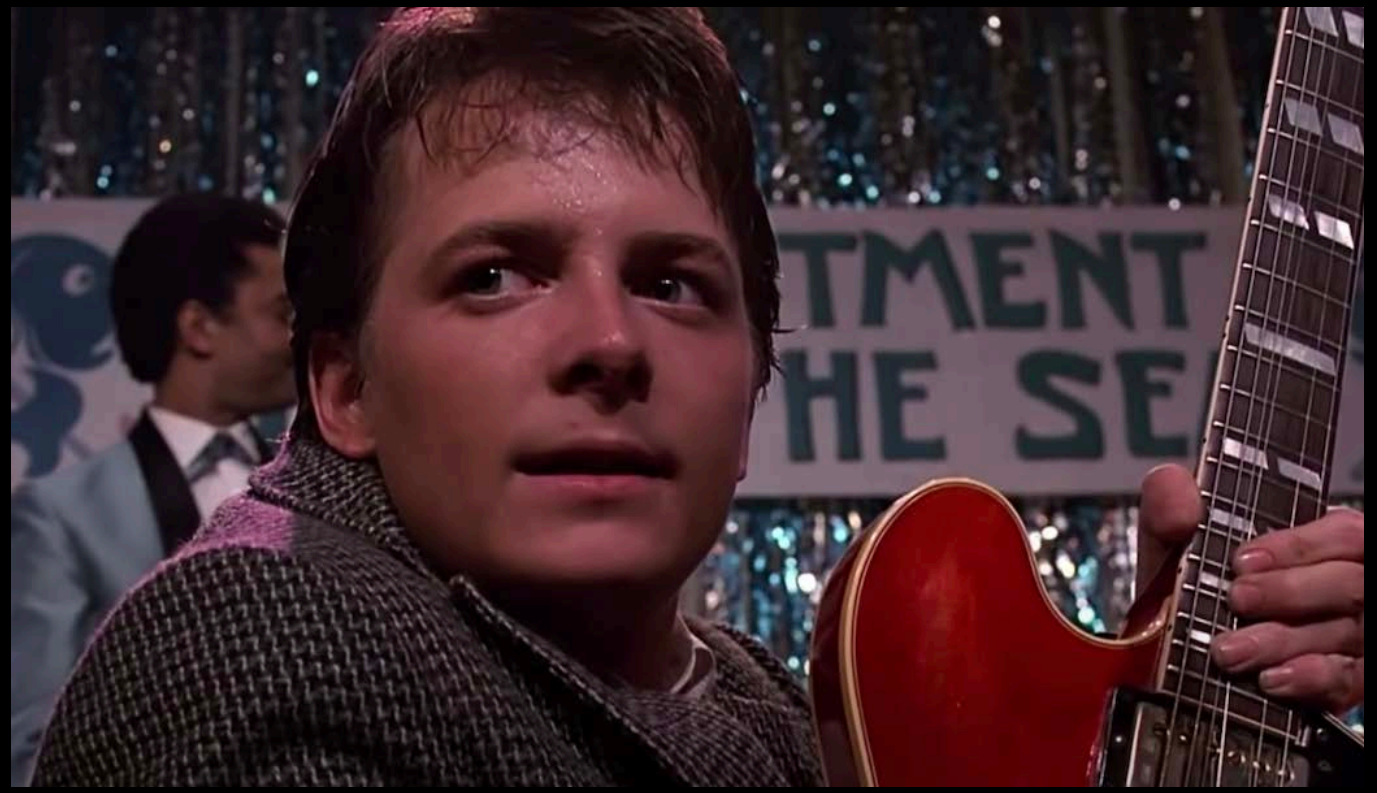


From Climate to Culture

- You can’t fix your culture overnight.

“I guess you guys aren’t ready for that yet.

But your kids are gonna love it!”



From Climate to Culture

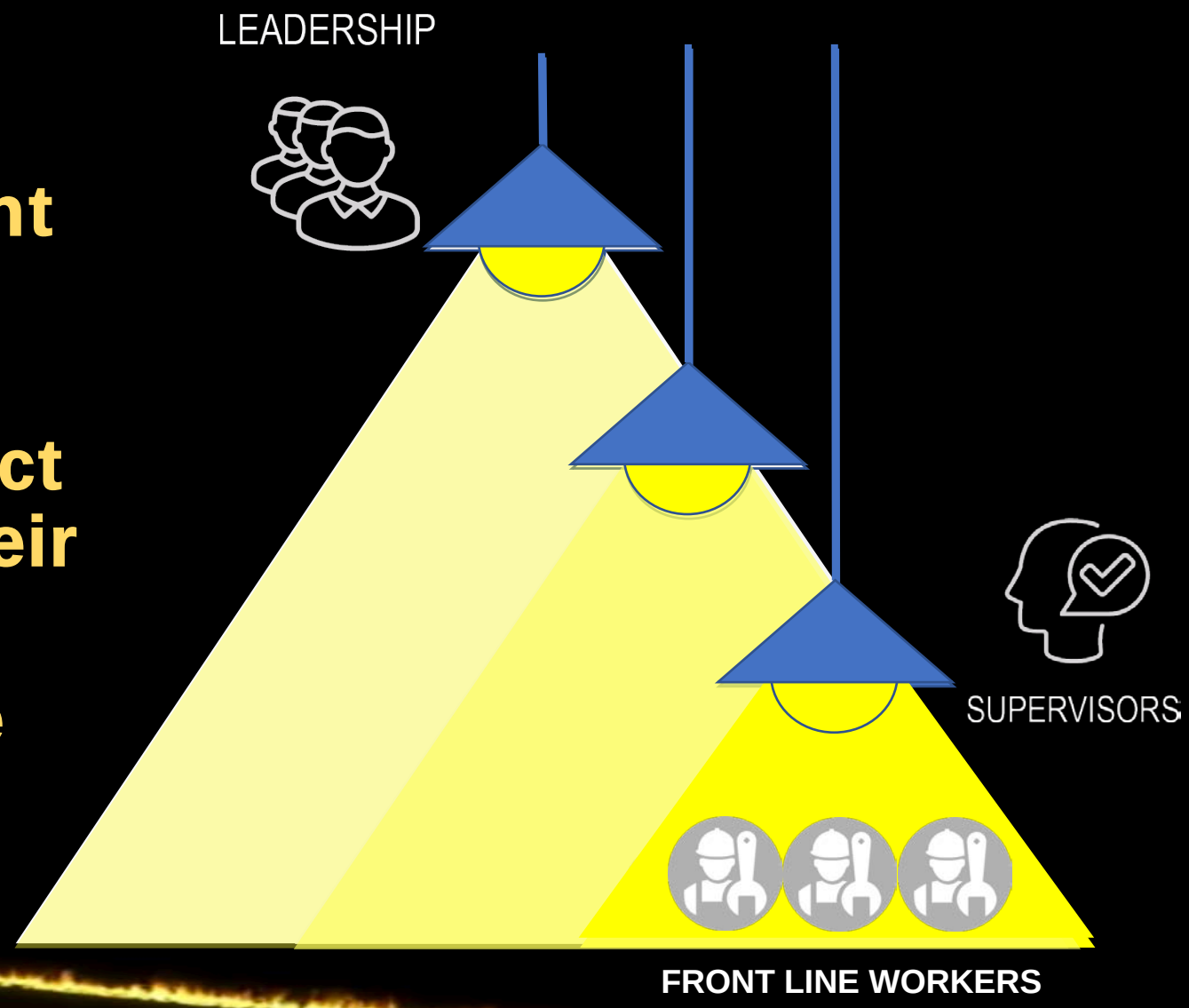
- You can’t fix your culture overnight.
- A positive safety climate reduces injuries and improves production, quality and engagement.
- Influence your day-to-day climate by improving supervisor/frontline manager skills.

Does This Sound Like Your Workplace?

Does This Sound Like Your Workplace?

Supervisors Are Key

- While upper management certainly influences the whole organization,
- Frontline workers interact more frequently with their immediate supervisors.
- Supervisors have a huge impact on the climate of their work areas!



Supervisors Are Key

When Supervisors Can:

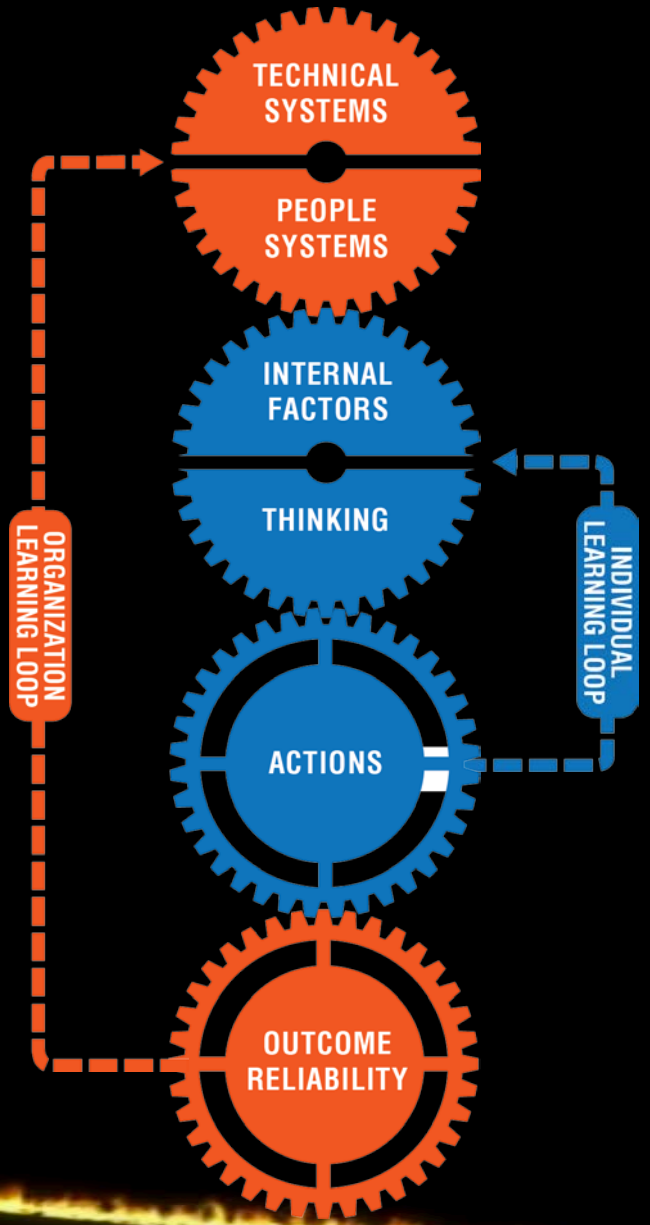
- Give and receive input in a positive manner
- Understand how human factors connect to reliable outcomes

The Organization Benefits:

- From accurate leading indicator data,
- Positive day-to-day climate,
- Desirable long-term culture

Safety's Flux Capacitor Can Help in These Key Areas!

- Drive engagement
- Provide portable and efficient tools
- Enable group communication
- Harness individual and team learning

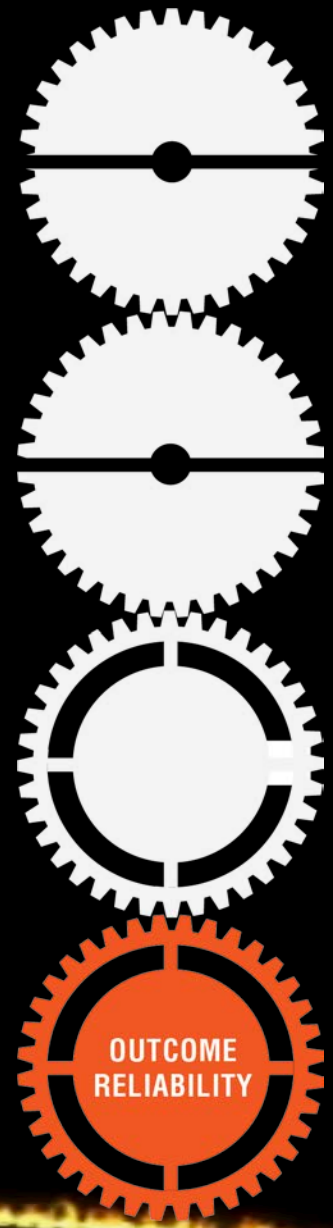


*“Wait a minute Doc,
are you telling me you built
a time machine out
of a DeLorean?”*

*“The way I see it,
if you’re gonna build
a time machine into a car,
why not do it with some
style?”*

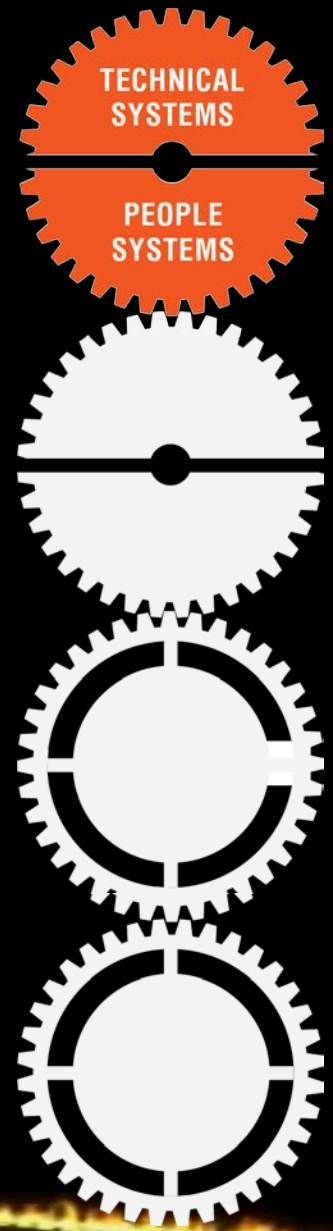
Human Factors Framework: The Future is Here

- Outcome Reliability
  - Safety
  - Production
  - Quality
  - Organizational Performance



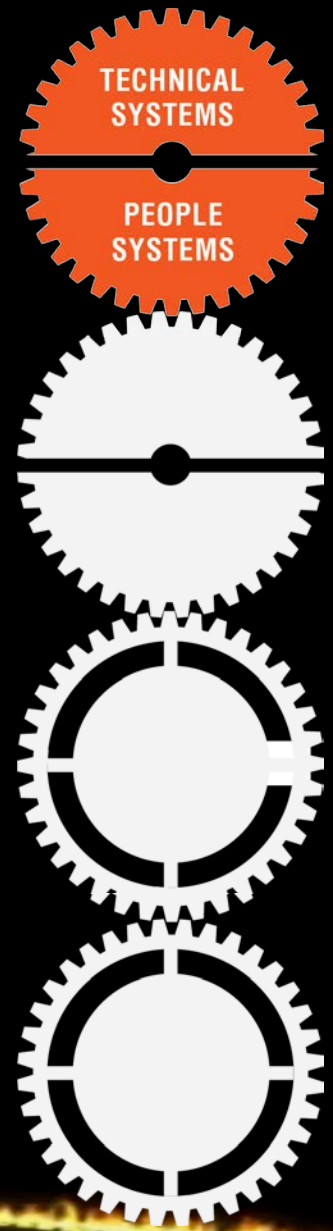
Human Factors Framework: The Future is Here

- Technical Systems
  - Engineering
  - Process
  - Equipment
  - Safety Management Systems



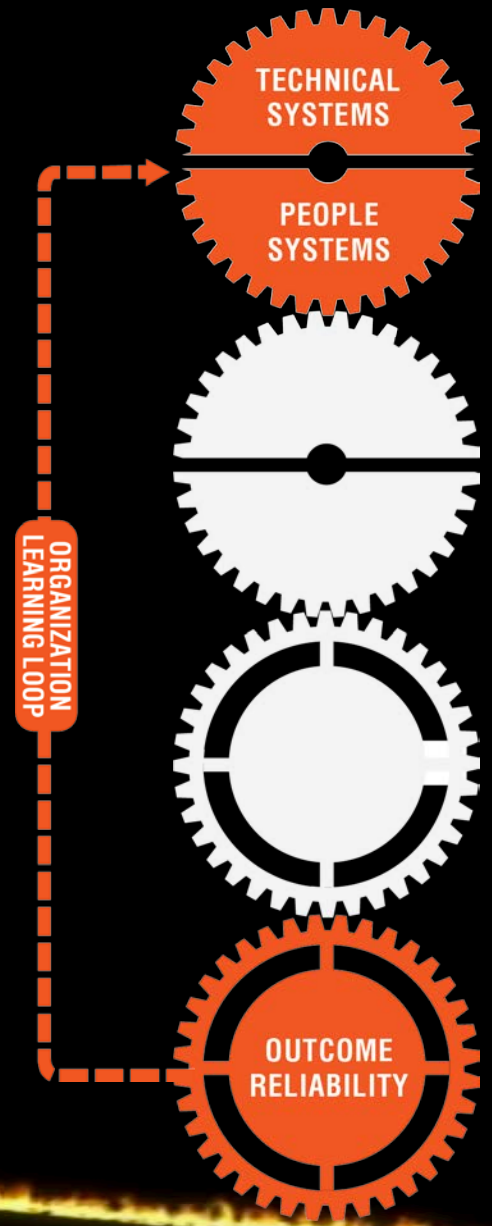
Human Factors Framework: The Future is Here

- **People Systems**
  - Work Team
  - Supervisory Skills
  - Organizational Culture



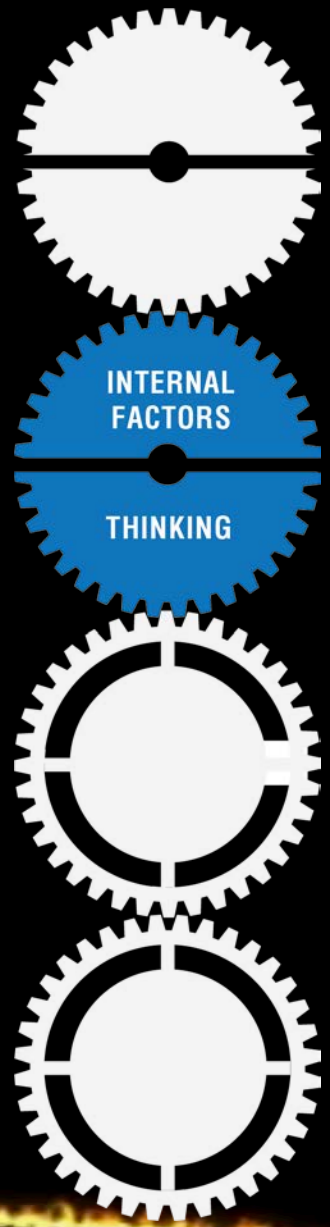
Human Factors Framework: The Future is Here

- The Organization Learning Loop
  - Outcome Reliability
  - Technical Systems
  - People Systems



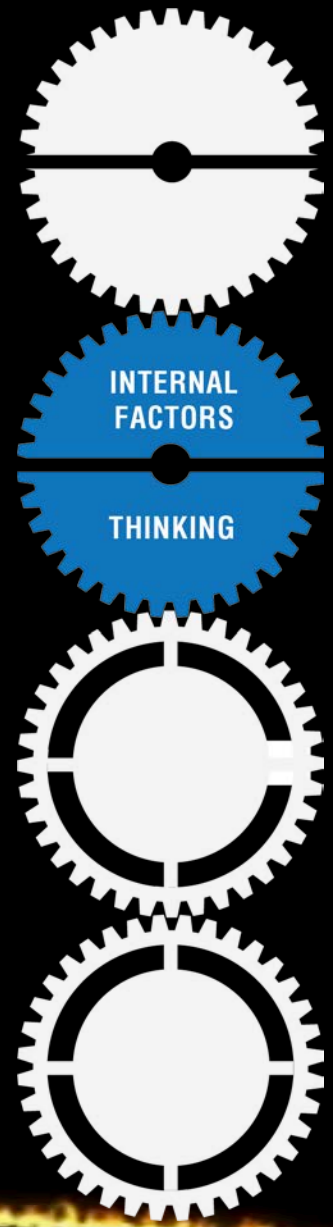
Human Factors Framework: The Future is Here

- Internal Factors
  - Fatigue
  - Illness
  - Distraction
  - Overconfidence



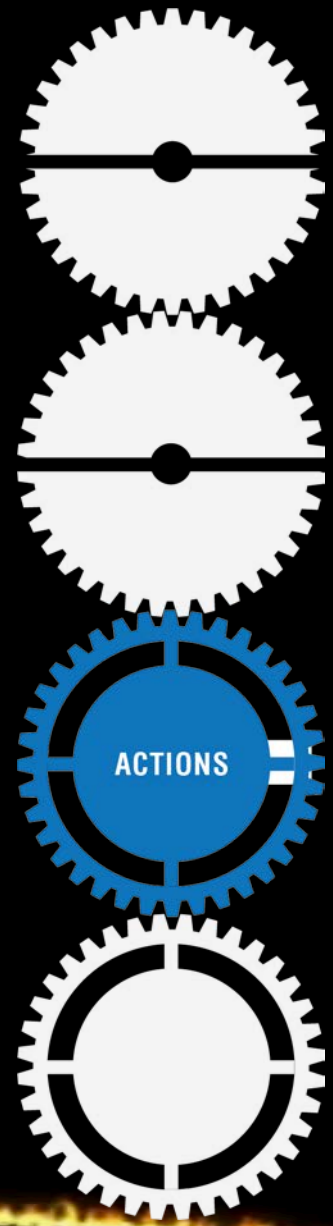
Human Factors Framework: The Future is Here

- Thinking
  - Decision-making
  - Autopilot
  - Attention
  - Habits



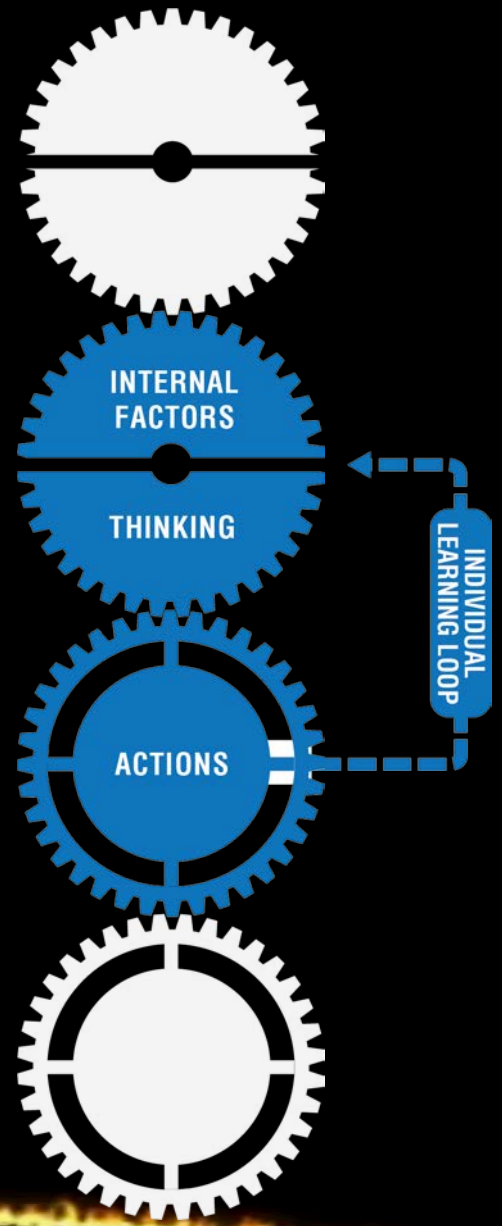
Human Factors Framework: The Future is Here

- Actions
  - Behaviors
  - Accuracy / Errors
  - Risk Perception
  - Relying on Memory



Human Factors Framework: The Future is Here

- The Individual Learning Loop
  - Internal Factors
  - Thinking
  - Actions



Using Feedback From Both Learning Loops

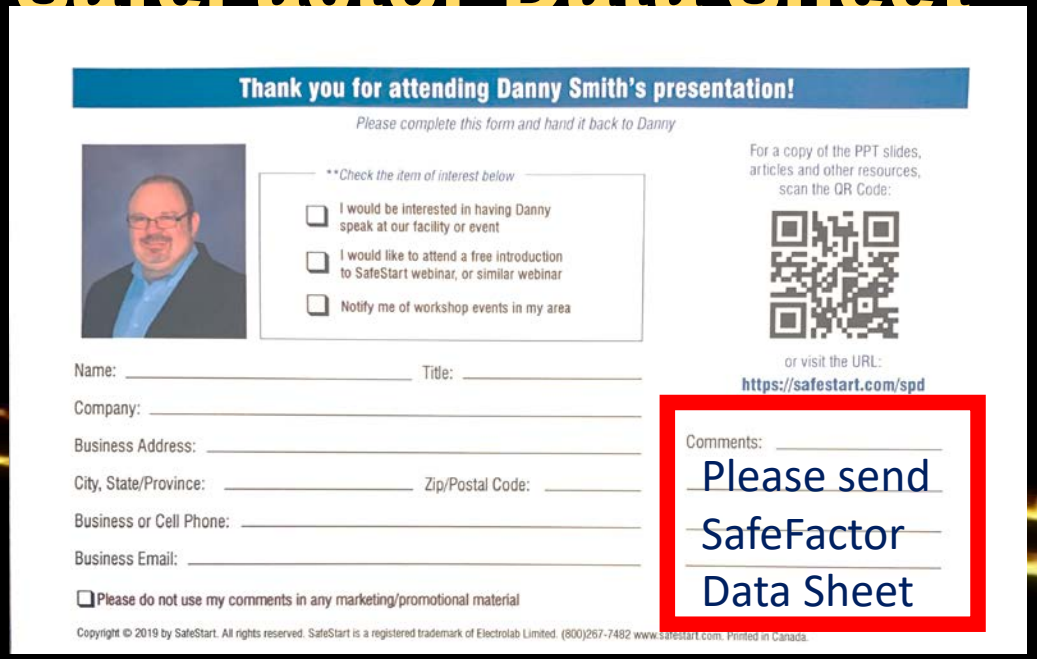
- An *individual* recognizes they are very drained and sleepy an asks themselves, “What is the source of my fatigue?”
- Even though she is only three hours into her shift, she feels very tired – some of which may be attributed to prolonged sitting at her workstation.
- After hearing similar reports, the *organization* institutes a job rotation system to avoid employees being in a static position for extended periods of time.

Using Feedback From Both Learning Loops

- An *individual* senses he is aggravated because he is constantly having to run back and forth to the tool crib for additional tools to complete a common task.
- After hearing similar reports, the *organization* implements or updates a 5S system to ensure each workstation has the right tools available for each assigned task.
- In addition to reducing the possibility of injury due to the employee's frustration and rushing about, efficiency and morale are likely to increase as well.

Free Resources

- Human Factors Framework whitepaper
- SafeFactor Data Sheet



Thank you for attending Danny Smith's presentation!

Please complete this form and hand it back to Danny

**Check the item of interest below

- ☐ I would be interested in having Danny speak at our facility or event
- ☐ I would like to attend a free introduction to SafeStart webinar, or similar webinar
- ☐ Notify me of workshop events in my area

For a copy of the PPT slides, articles and other resources, scan the QR Code:

or visit the URL: https://safestart.com/spd

Name: _____ Title: _____

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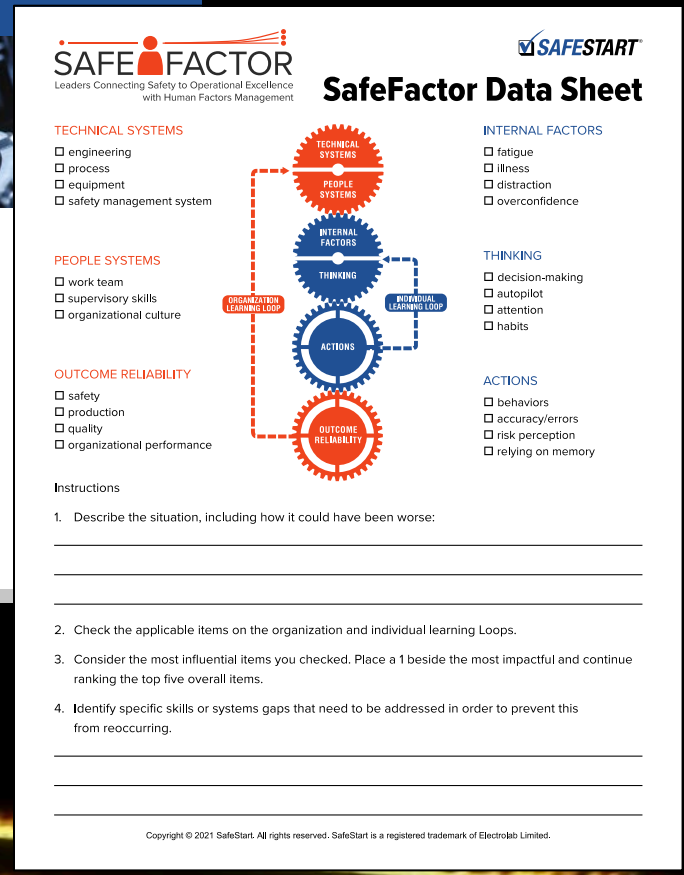
☐ Please do not use my comments in any marketing/promotional material

Comments: Please send SafeFactor Data Sheet

SAFESTART

A FRAMEWORK FOR MANAGING HUMAN FACTORS

BY PANDORA BRYCE, Ph.D. AND COLIN DUNCAN



SAFE FACTOR

Leaders Connecting Safety to Operational Excellence with Human Factors Management

SAFESTART

SafeFactor Data Sheet

TECHNICAL SYSTEMS
- ☐ engineering
- ☐ process
- ☐ equipment
- ☐ safety management system

PEOPLE SYSTEMS
- ☐ work team
- ☐ supervisory skills
- ☐ organizational culture

OUTCOME RELIABILITY
- ☐ safety
- ☐ production
- ☐ quality
- ☐ organizational performance

TECHNICAL SYSTEMS · PEOPLE SYSTEMS · INTERNAL FACTORS · THINKING · ACTIONS · OUTCOME RELIABILITY · ORGANIZATION LEARNING LOOP · INDIVIDUAL LEARNING LOOP

INTERNAL FACTORS
- ☐ fatigue
- ☐ illness
- ☐ distraction
- ☐ overconfidence

THINKING
- ☐ decision-making
- ☐ autopilot
- ☐ attention
- ☐ habits

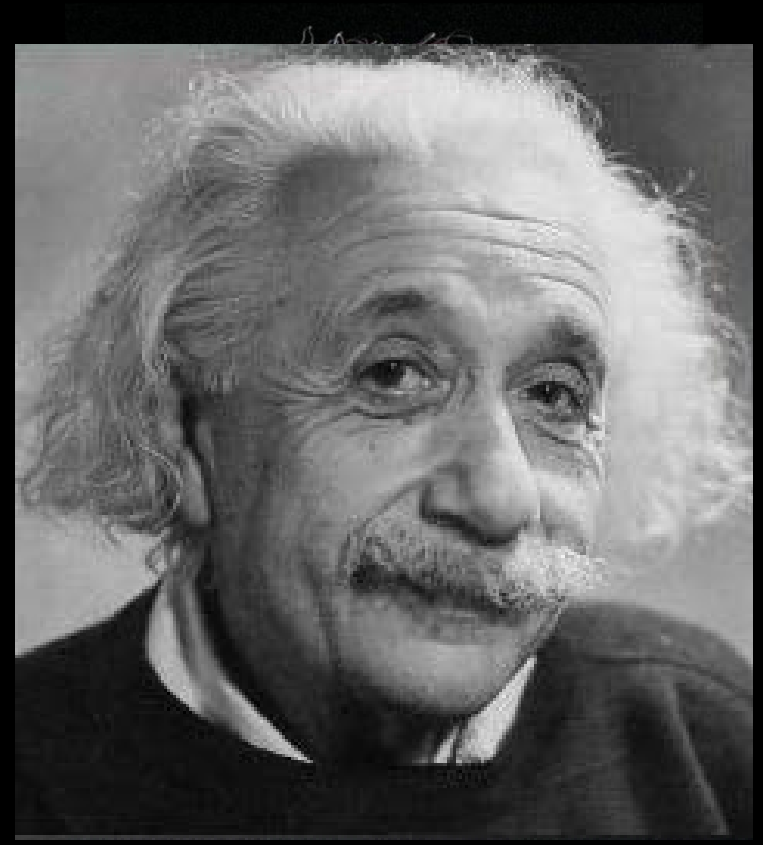
ACTIONS
- ☐ behaviors
- ☐ accuracy/errors
- ☐ risk perception
- ☐ relying on memory

Instructions

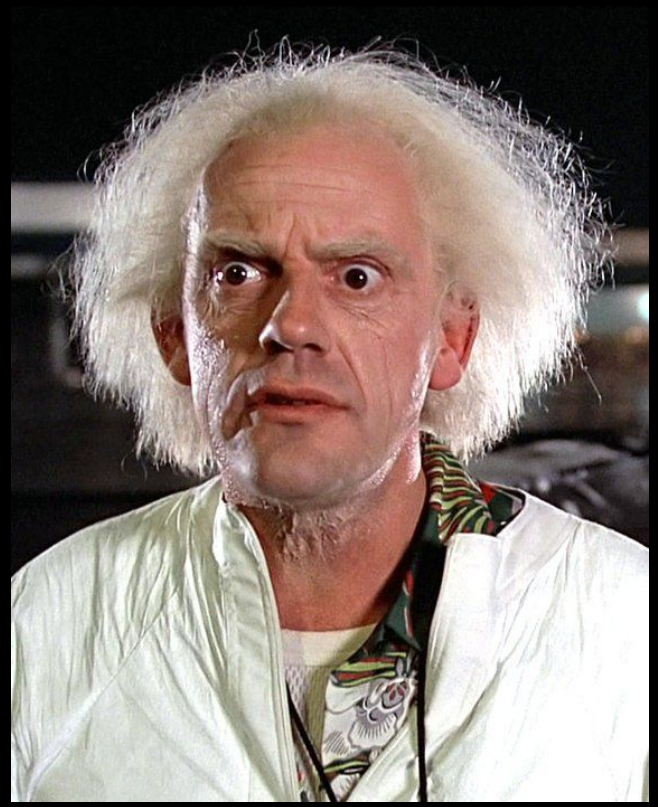
1. Describe the situation, including how it could have been worse:

2. Check the applicable items on the organization and individual learning Loops.
3. Consider the most influential items you checked. Place a 1 beside the most impactful and continue ranking the top five overall items.
4. Identify specific skills or systems gaps that need to be addressed in order to prevent this from reoccurring.

“If I had an hour
to solve a problem,
I’d spend 55 minutes
thinking about the problem
and 5 minutes
thinking about solutions.”



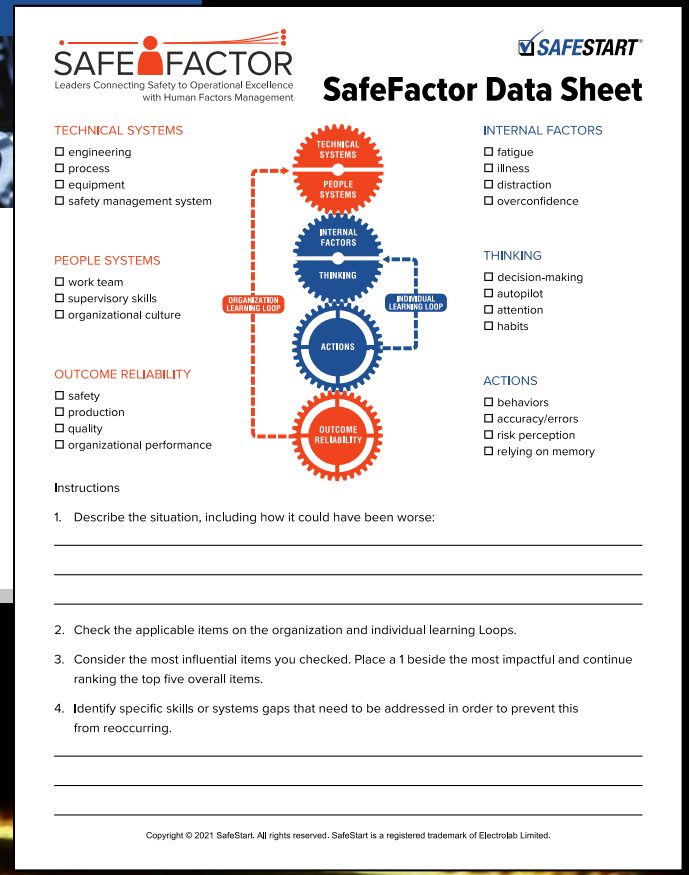
“Your future hasn’t been written yet. No one’s has.
Your future is whatever you make it.
So make it a good one!”

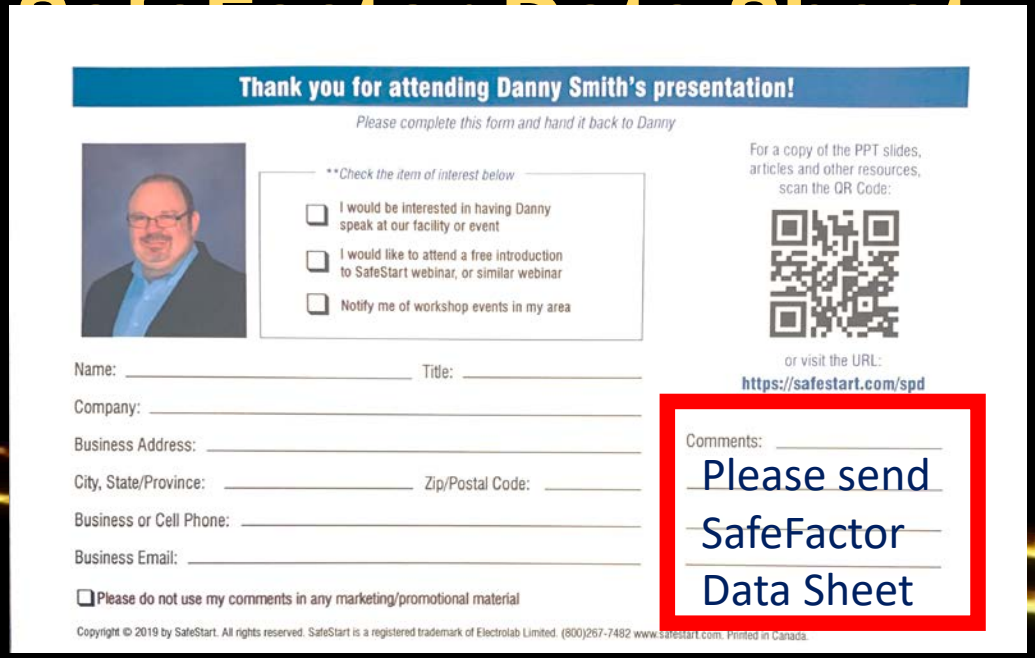


“If you put your mind to it, you can accomplish anything”

Free Resources

- Human Factors Framework whitepaper
- [illegible] Data Sheet





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