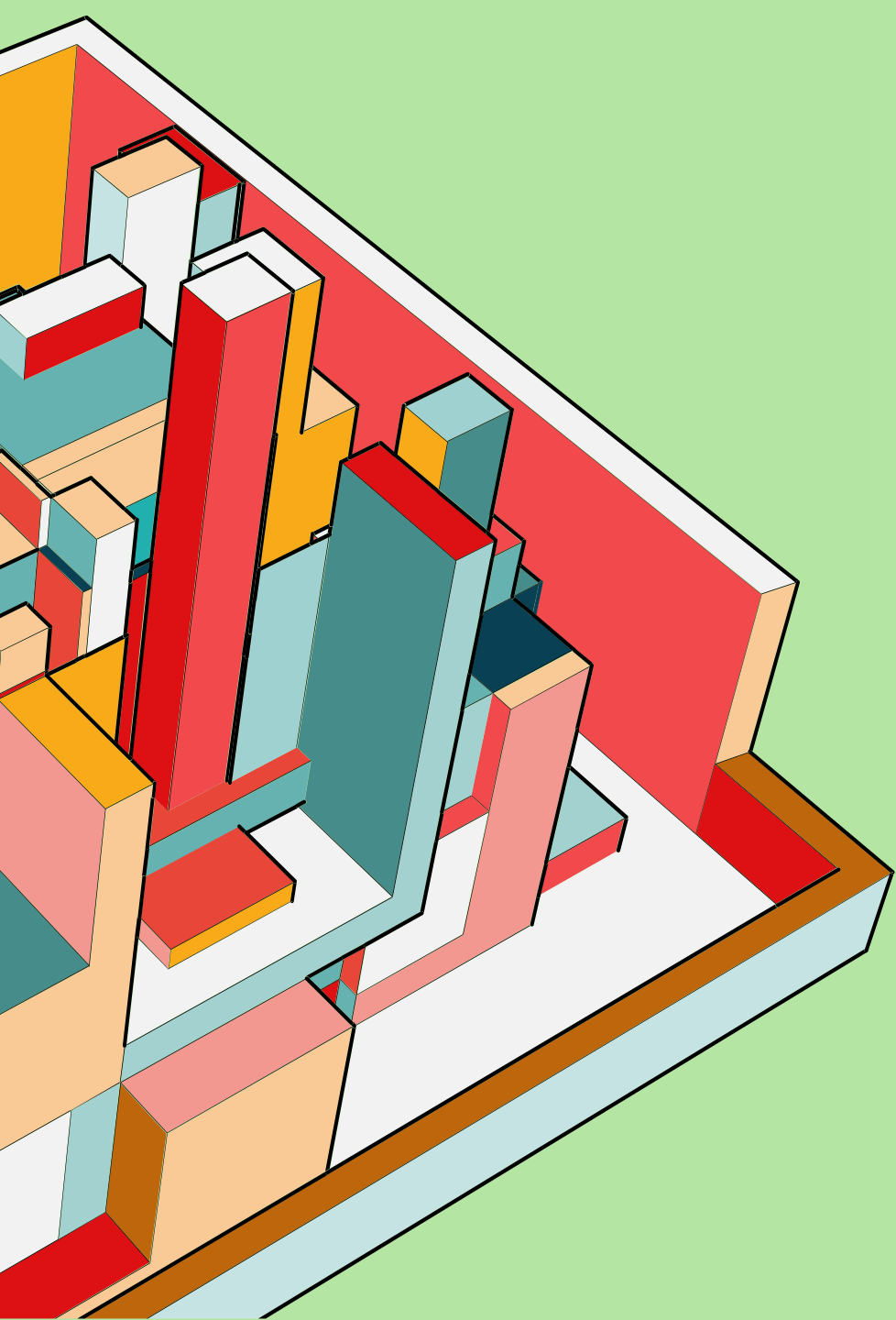


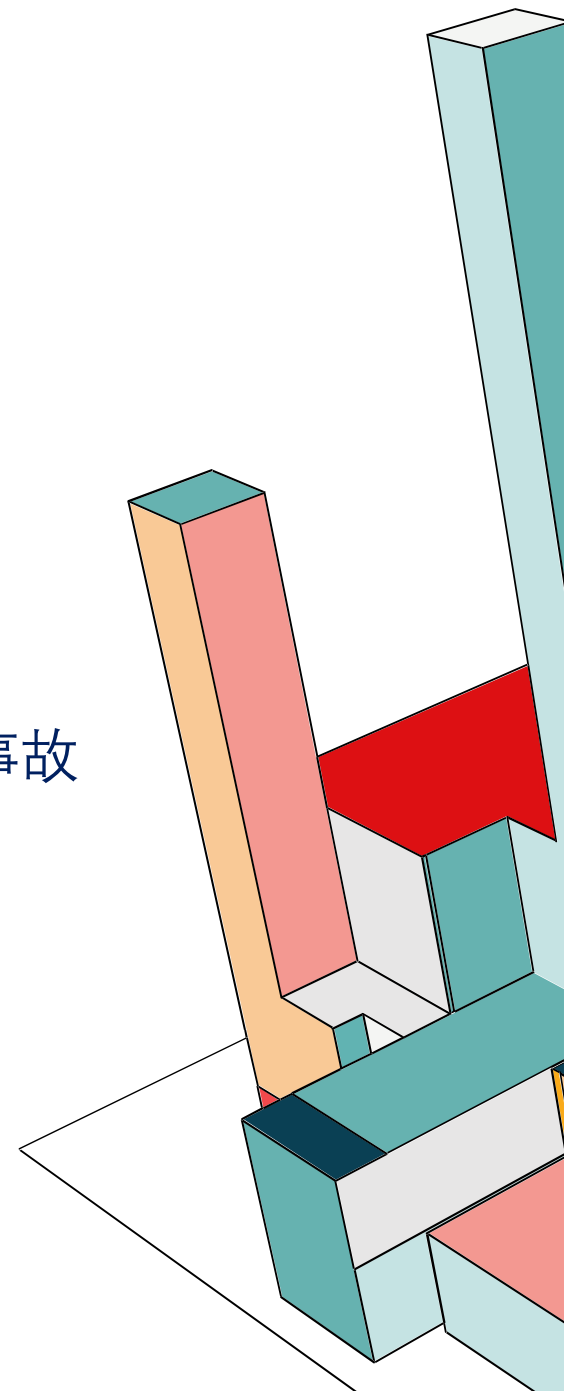


Safety Leadership **Culture**

Rocky Cai
Director - HSEQ
CLP Power Hong Kong Limited
18 Sep 2025

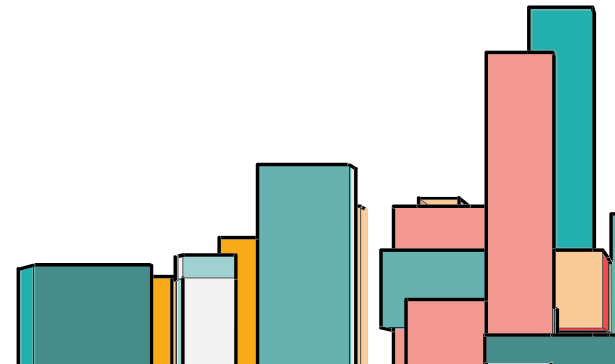
AGENDA

- Safety Management Practice Research安全管理實踐研究
- Importance of Safety Leadership安全領導力的重要性
- Understanding Human Performance理解人為表現
- Leadership Engagement in Preventing Incidents領導層參與預防事故
- Key Traits of Good Safety Leaders優秀安全領導者的關鍵特質



Safety Management Practice Research

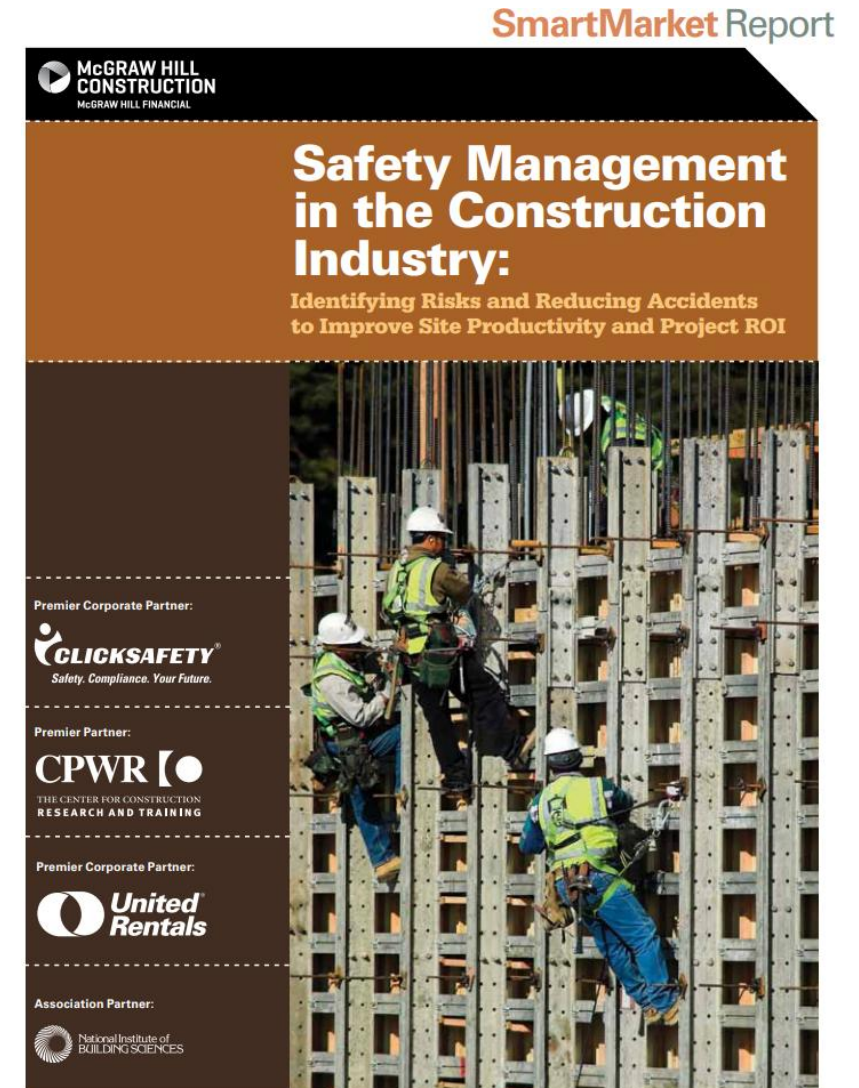
安全管理實踐研究



Safety Management Practice Research

安全管理實踐研究

- A research report, "**Safety Management in the Construction Industry**", completed by a US-based professional organization (McGraw Hill Construction) in 2013, examined safety management practices in the U.S. construction industry and analyzed their impact on project safety performance.
- The study revealed some **principles and effective management tools** for construction project safety management.



(Courtesy: McGraw Hill Construction) https://www.cpw.com/wp-content/uploads/SafetyManagementinConstructionSMR-2013_0.pdf

Effective Practices in Improving Project Safety

改善項目安全的有效實踐

Top Practices Found Most Effective in Increasing Project Safety

Source: McGraw Hill Construction, 2013

Develop Site Specific
HASP (Health and Safety Plan)



Analyze Potential Site
Safety Hazards
in Preconstruction



Appoint/Assign/
Authorize Project
Safety Personnel



Include Jobsite Workers
in Safety Process



Conduct Regular Project
Safety Audits With
Foremen/Workers



10 Common Industry Good Practices 10項常見行業良好實踐

60% of companies believe that the following common industry management practices are conducive to improving safety performance.

Aspects of a World-Class Safety Program

(According to General Contractors and Specialty Contractors)

Source: McGraw Hill Construction, 2013

General Contractor
Specialty Contractor

Regular Meetings on Safety at the Jobsite Level



Strong Safety Leadership Abilities in Supervisors



Regular Safety Audits



Hazard Assessments and Safety Plans at Each Jobsite



Ongoing Access to Safety Training Across the Organization



Strong Emphasis on Communication



Thorough Incidence and Near-Miss Investigations



Jobsite Worker's Input



Staff Positions Dedicated to Safety



Regular Meetings on Safety Among Staff at the C-Suite Level

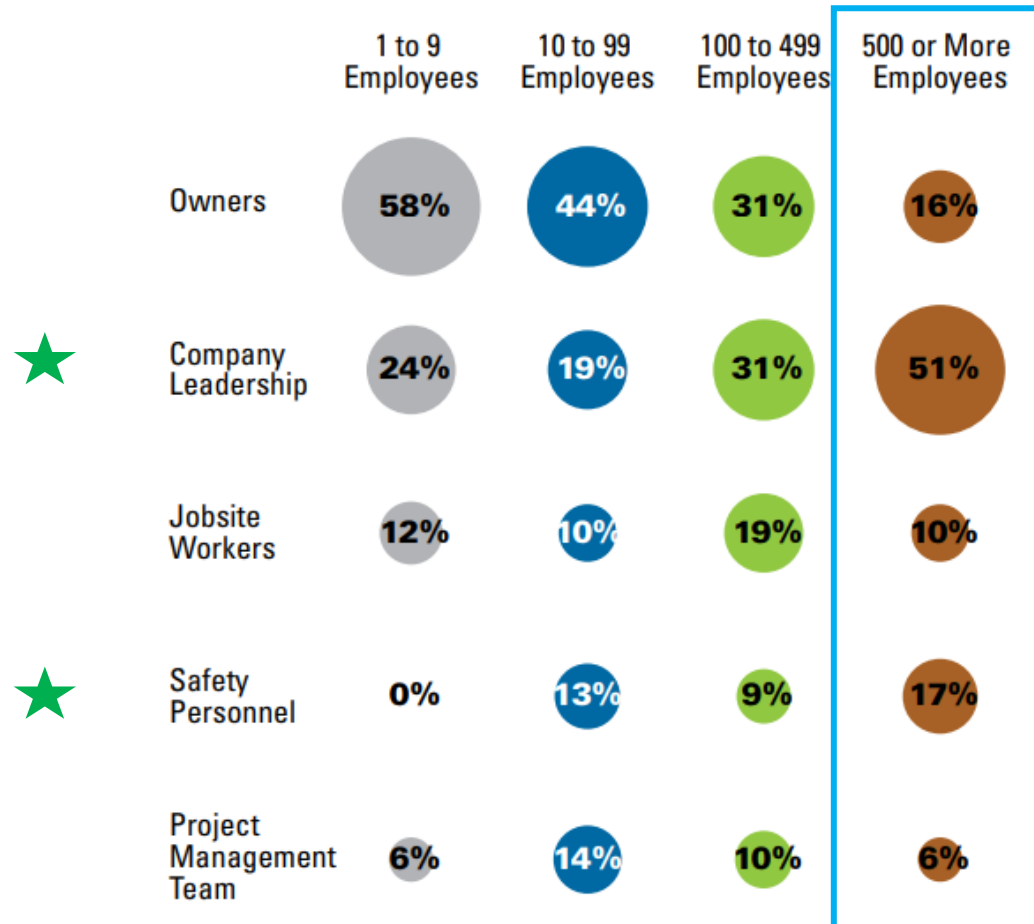


Most Influential Positions in Improving Safety

改善安全方面最具影響力的職位

Most Influential Position Within Company for Improving Safety (By Firm Size)

Source: McGraw Hill Construction, 2013



- The larger the company, the greater the influence of **company leadership**.
- The larger the company, the greater the role of **dedicated safety personnel**.

Most Valuable Safety Training for Leaders

對領導者最有價值的安全培訓

Value of Types of Safety Training for Senior Management

(By Percentage Who Consider It to Be of Great Value)

Source: McGraw Hill Construction, 2013

Safety Culture



Safety Leadership



Safety Professional Training
(CSP, SSO, CCHST)



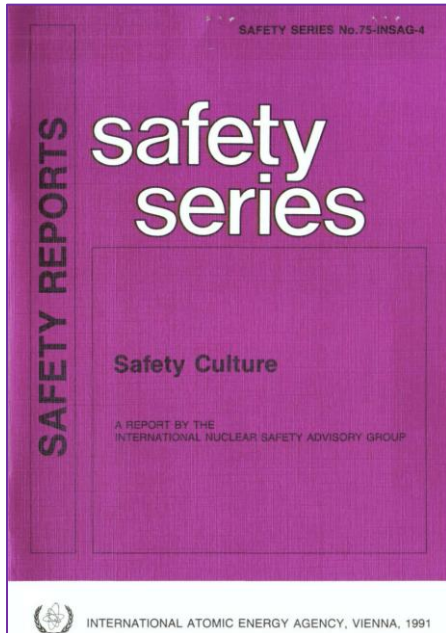
Importance of Safety Leadership

安全領導力的重要性



Safety Culture 安全文化

The term 'Safety Culture' was first introduced in INSAG's *Summary Report on the Post-Accident Review Meeting on the Chernobyl Accident*, published by the IAEA as Safety Series No.75-INSAG-1 in 1986, and further expanded on in *Basic Safety Principles for Nuclear Power Plants*, Safety Series No.75-INSAG-3, issued in 1988. Since the publication of these two reports, the term Safety Culture has been used increasingly in the literature in connection with nuclear plant safety.



The Chernobyl nuclear power plant is shown here in May 1986, a few weeks after the disaster. (Image credit: Igor Kostin/Laski Diffusion/Getty Images)

The **shared values, beliefs, attitudes and behaviors** related to safety within an organization, which **collectively shape the way** individuals and groups approach safety decisions and practices.

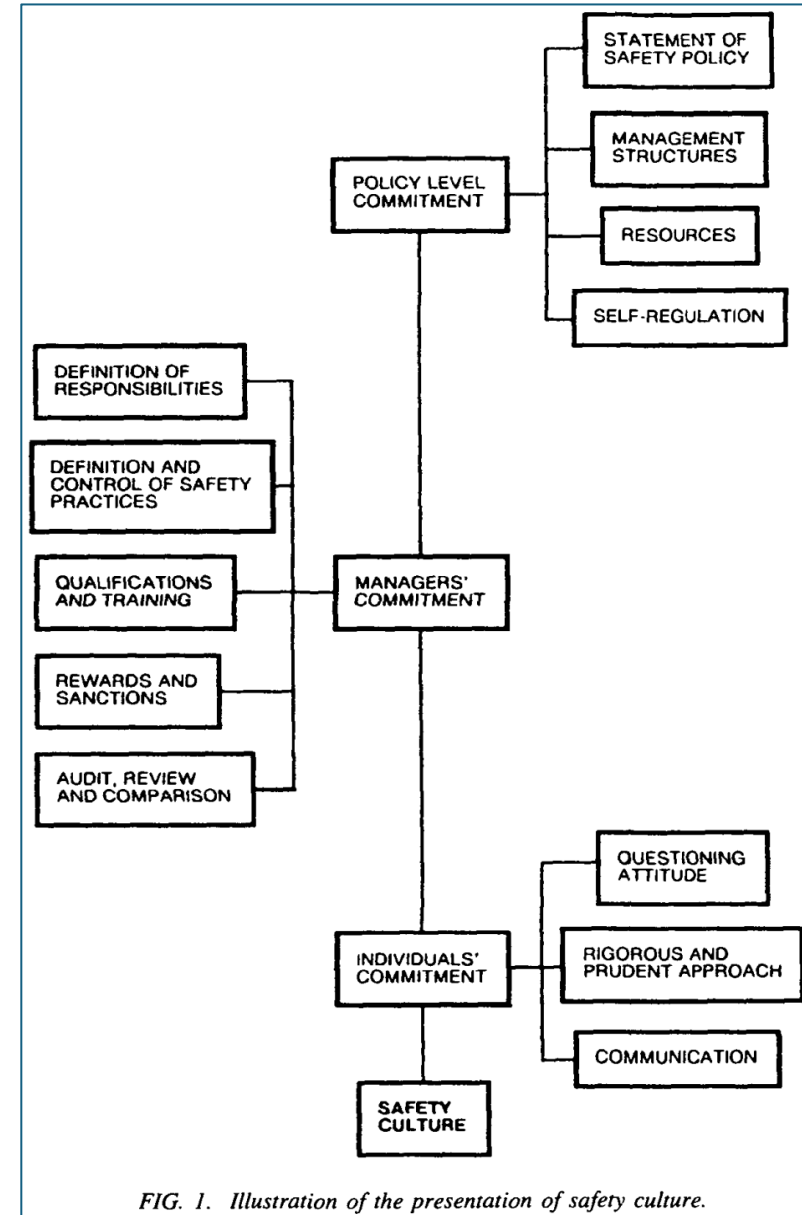


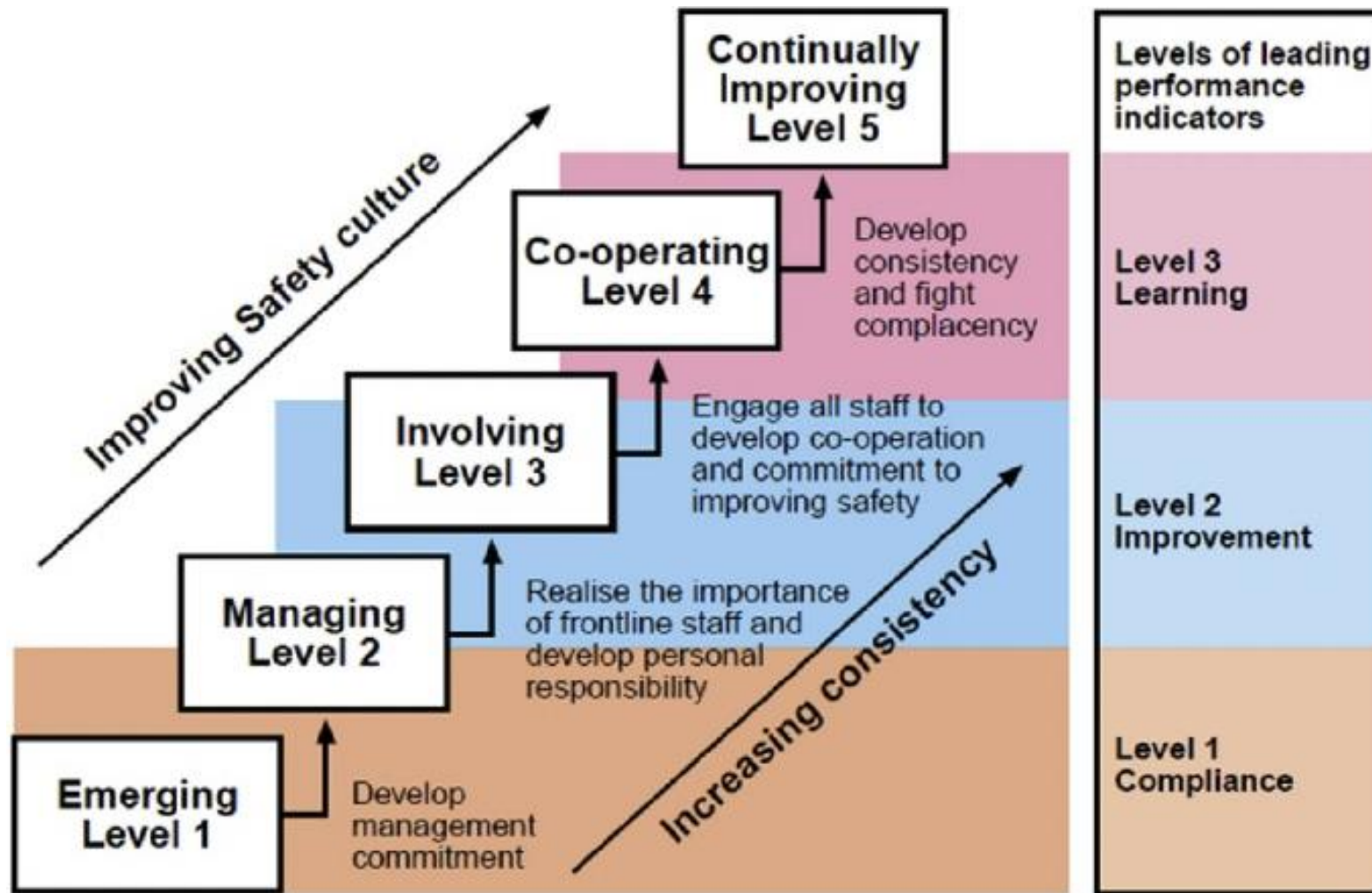
FIG. 1. Illustration of the presentation of safety culture.

Source:

Safety Series No. 75-INSAG-4

Safety Culture A report by the International Nuclear Safety Advisory Group

■ Safety Culture Maturity Level 安全文化成熟度水平



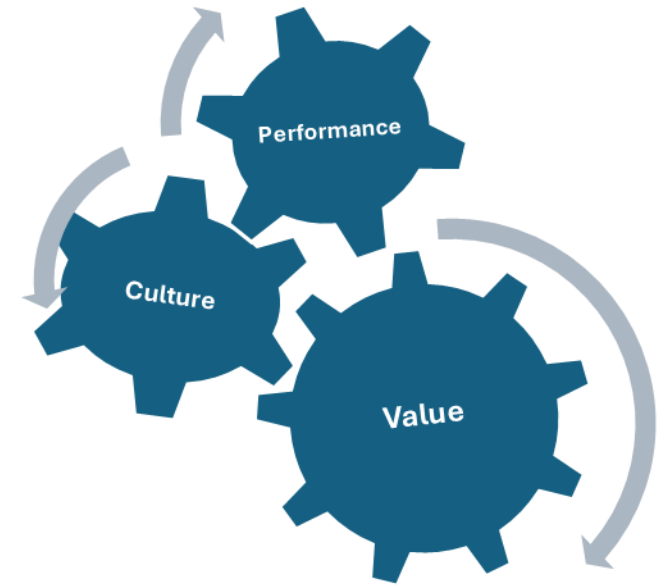
Key Elements for Safety Culture Development

- **Management Commitment**
- **Resources**
- **Leadership and Responsibilities**
- Control of Safety Practices
- Training
- **Communication**
- **Engagement and Participation**
- Reward and Sanctions
- Review and Audit
- **Learning Organization**

*The UK HSE Safety Culture Maturity Model
(Courtesy: The Keil Centre for the Health and Safety Executive, 2000)*

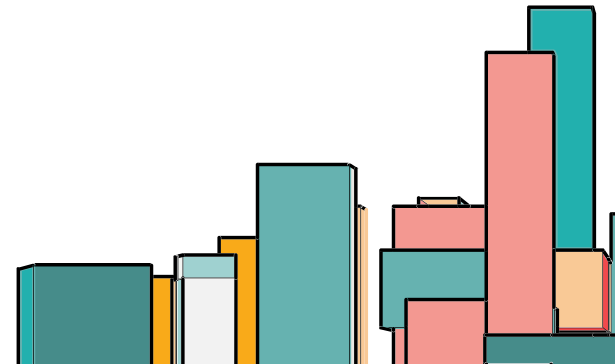
Why safety leadership is important?

為什麼安全領導力重要？



Understanding Human Performance

理解人為表現



Understand the Concepts of Human Performance

理解人為表現的概念

- **Human Performance** is a series of actions, behaviours, and capabilities *demonstrated by individuals* to achieve expected outcomes and meet performance expectations.
- Challenge the **commonly held belief** that incidents are the result of a 'human error' by a worker in the 'front line'.
- To control risks, **organization must consider human factors as a distinct element** which must be recognized, assessed and managed effectively.
- Human performance can, and should, be included and **integrated into the safety management system**.

Reference Tools:

- Human and Organizational Performance (HOP)
- Human Performance Improvement (HPI)
- Learning From Norm Work (LFNW)

The Development of Human Performance

人為表現理論的發展

- Late 19th century: The embryonic stage of **ergonomics**, which improved operational methods and enhanced work efficiency.
- In 1960, the **International Association for Human Factors and Engineering** was founded, and it began to grow rapidly.
- In 1979, shortly after the **Three Mile Island** nuclear accident, the **Institute of Nuclear Power Operations (INPO)** was established in the United States. Safety management **evolved from a focus on design to an emphasis on human performance**.
- In the late 1980s, INPO launched its **Human Factors Performance Improvement System**, a suite of management tools encompassing **human factors management measures, tools for preventing human errors, and incident analysis methods**.
- In the 1990s, some of INPO's research results began to be disseminated to operating nuclear power plants worldwide through the **World Association of Nuclear Operators (WANO)**.



Three Mile Island nuclear facility, 1979

Primary Causes:

Human Operational Errors and Mechanical Failures

- Training of nuclear power plant operators
- Operators' ability to handle emergencies
- The user-friendly design of control systems

A New Way to View Work

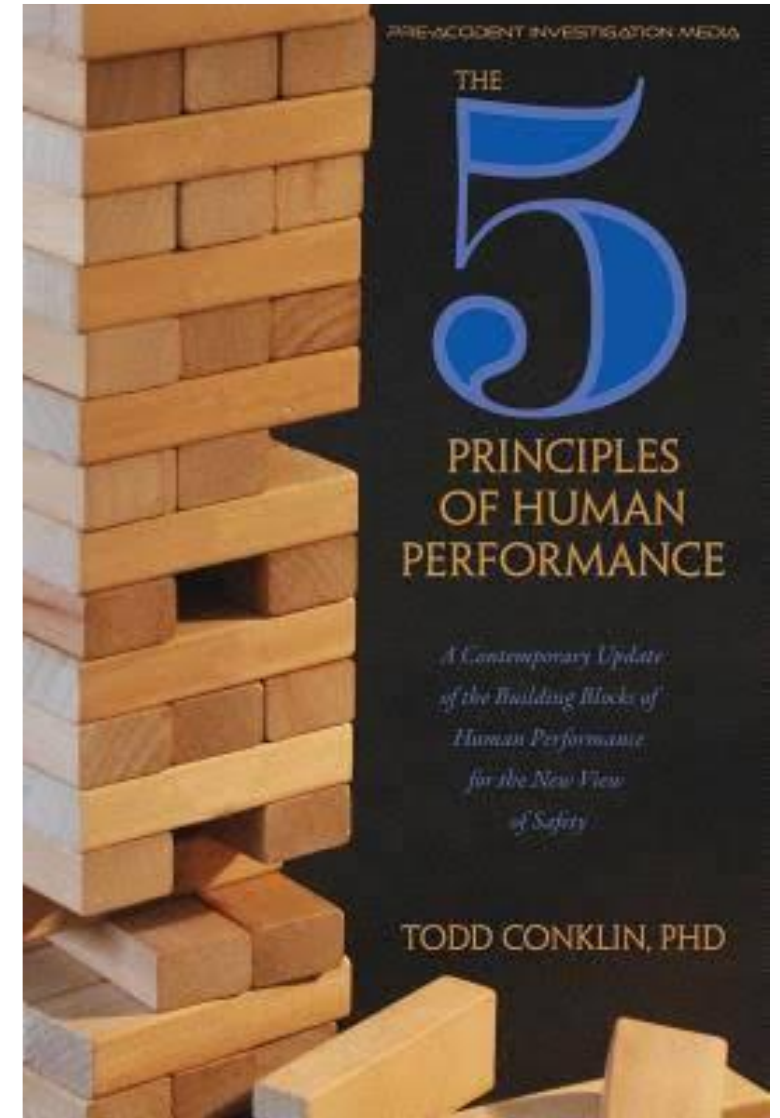
看待工作的新方式

- Human error is a **symptom** of problem deeper inside a system
- Understand people's actions at that moment, within their **context**
- > **90%** of events are caused by something other than just workers
- **What failed** vs Who failed
- Prevent events through **learning and improvement**

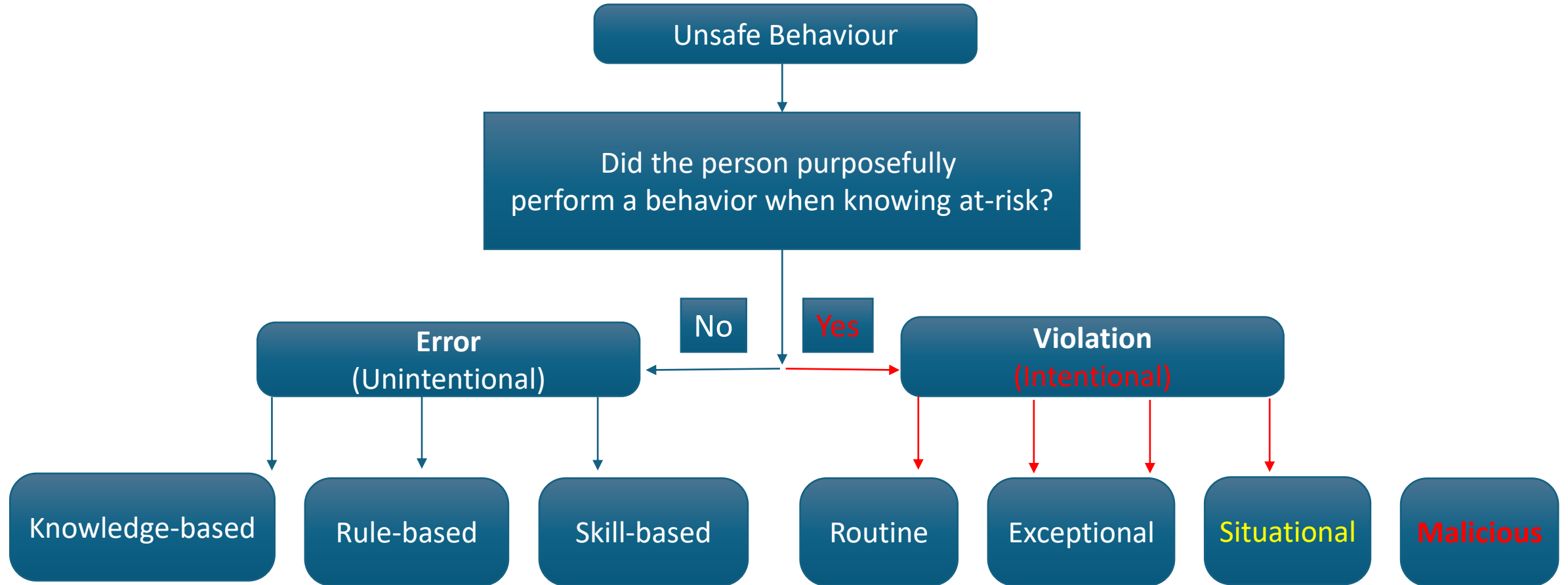


The 5 Principles of Human Performance 人為表現的5項原則

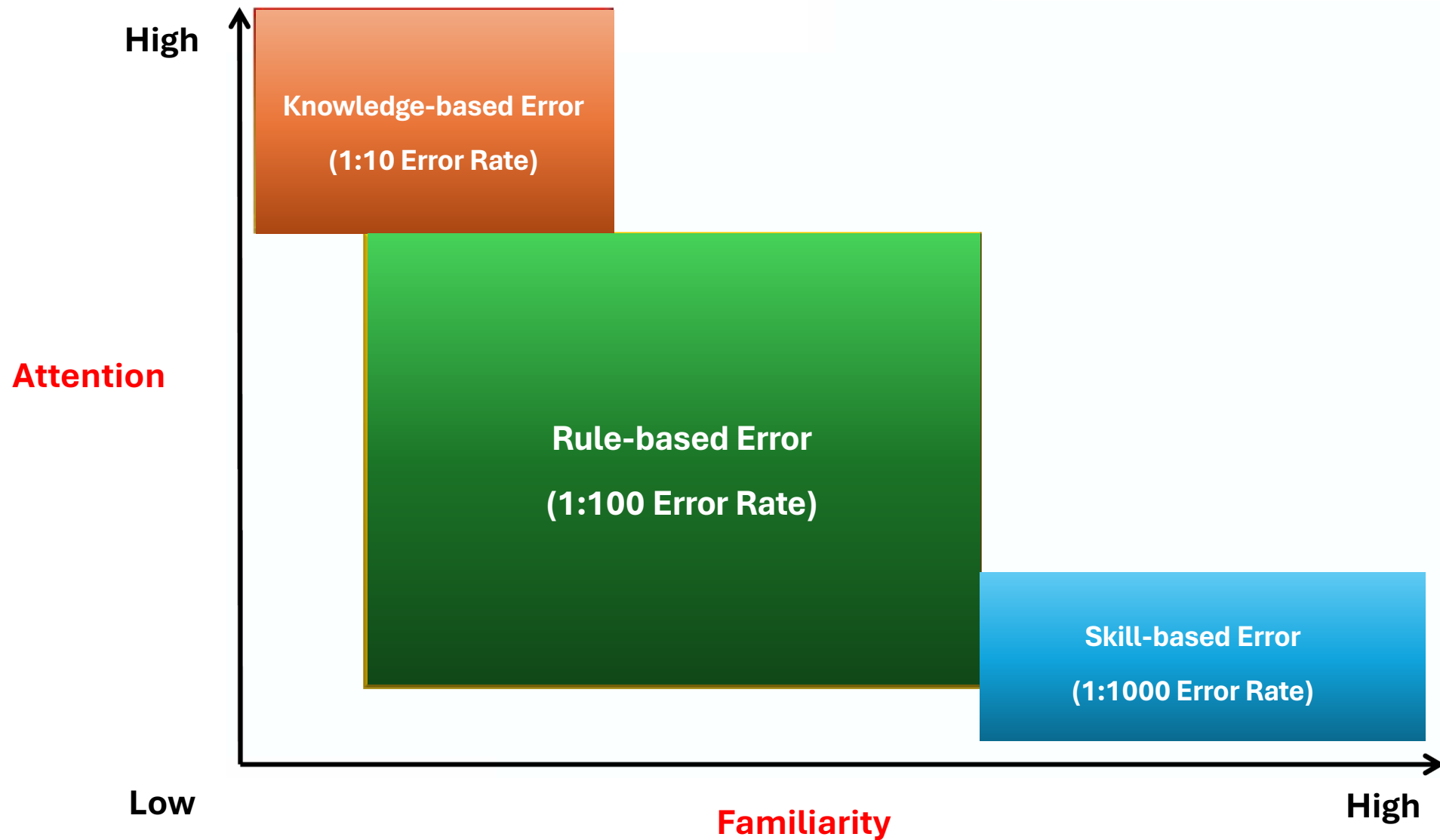
- **Error** is normal
- We can **predict and manage** error-likely situations
- **Context** drives behaviors
- **Blame** hinders learning
- Our **response** matters



Error vs Violation 失誤 vs 違規 (Human Failures)



Error Model 失誤模型



Error-likely Situations 容易出錯的情況

Task Demands	Work Environment
• Time pressure • High Workload • Multiple tasks • Repetitive actions • Unclear roles or responsibilities • Lack of or unclear procedures	• Distractions (e.g., noise level) • Simultaneous operations • Narrow or constraint workplace • Unexpected stie condition • Confusing displays • Weather conditions
Individual Capabilities	Human Nature
• Lack of knowledge • Unfamiliar with task • Lack of experience • Physical or mental condition • Poor communication • Lack of problem-solving skills	• Stress • Habit patterns • Complacency/Overconfidence • Risk perception • Assumptions • Mental shortcut/memory

Unsafe Behavior is Often the Result of System Influences

Ways of Managing Violations 管理違規的方法

- Taking steps to increase **detection** of violations
- Ensuring that **rules and procedures** are relevant and practical
- Explaining the **rationale** behind certain rules
- **Involving the workforce** in drawing up rules to increase their acceptance
- Getting to the **root causes of any violation** is the key to understanding and hence, preventing the violation.

Human Failures are Predictable and Manageable

人為失誤是可以預測和控制的

- Factors influencing human performance can be identified, assessed and managed, therefore,
- The potential human failures (errors & violations) are largely predictable and can be managed.
- Unsafe behaviors are not random events.

Context Drives Behaviours 情境影響行為

Context...

- Work Environment/Stressors
- Task Demands
- System of Work/Process
- Manager/Leader/Supervisor's Mindset
- Team Collaboration and Communication
- Culture (Production vs Safety)

Behaviours...

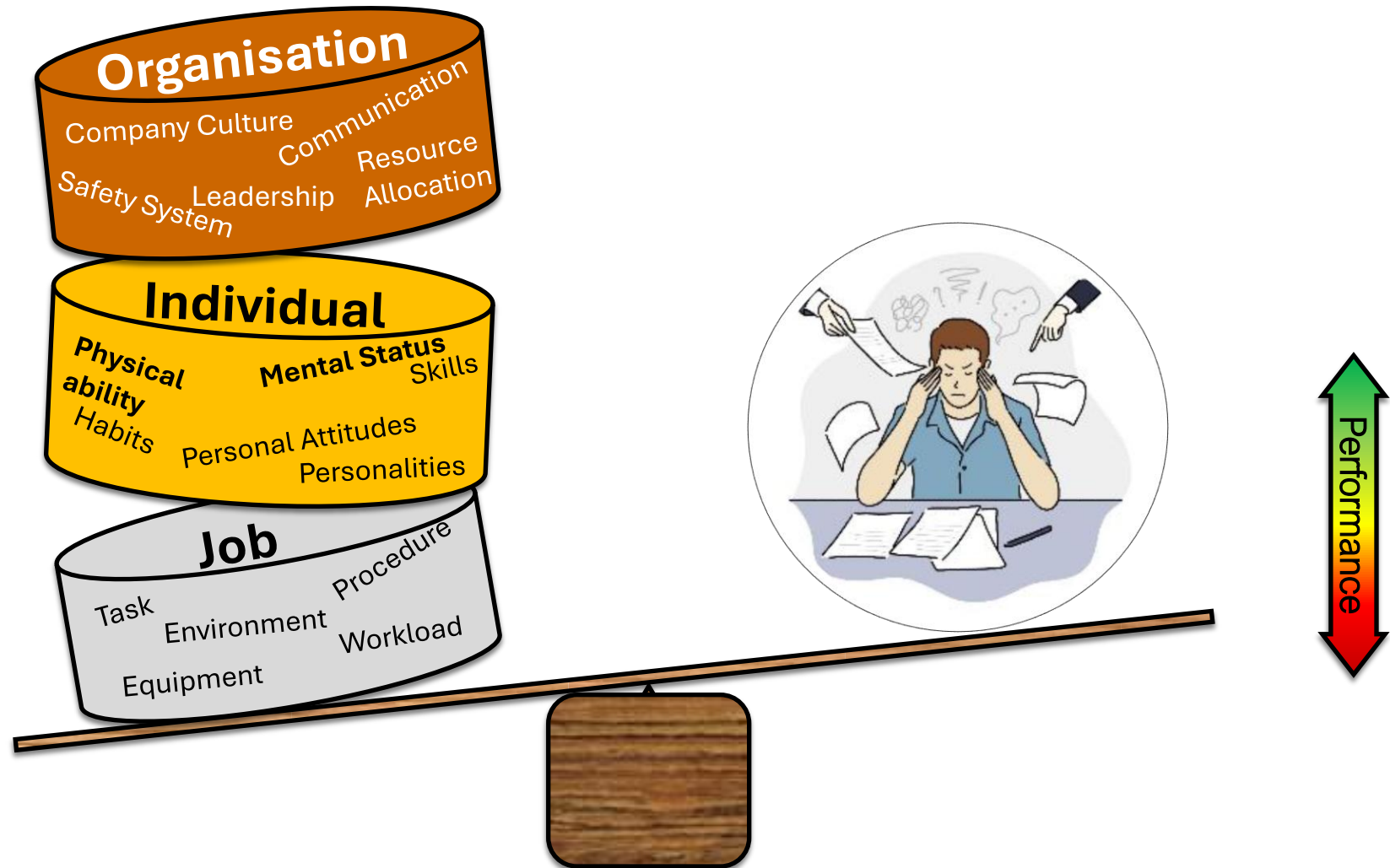
- Not wearing PPE
- Take shortcut
- Bypass safety protocol
- Ignore supervisor's instruction
- Use fault equipments/tools

Performance Influencing Factors 影響表現的因素

Individual, **Job** and **Organisation** factors influence Human Performance at work which can affect health and safety.



HSG48 (Second edition)
Published 1999



Performance Influencing Factors 影響表現的因素

Individual Factors

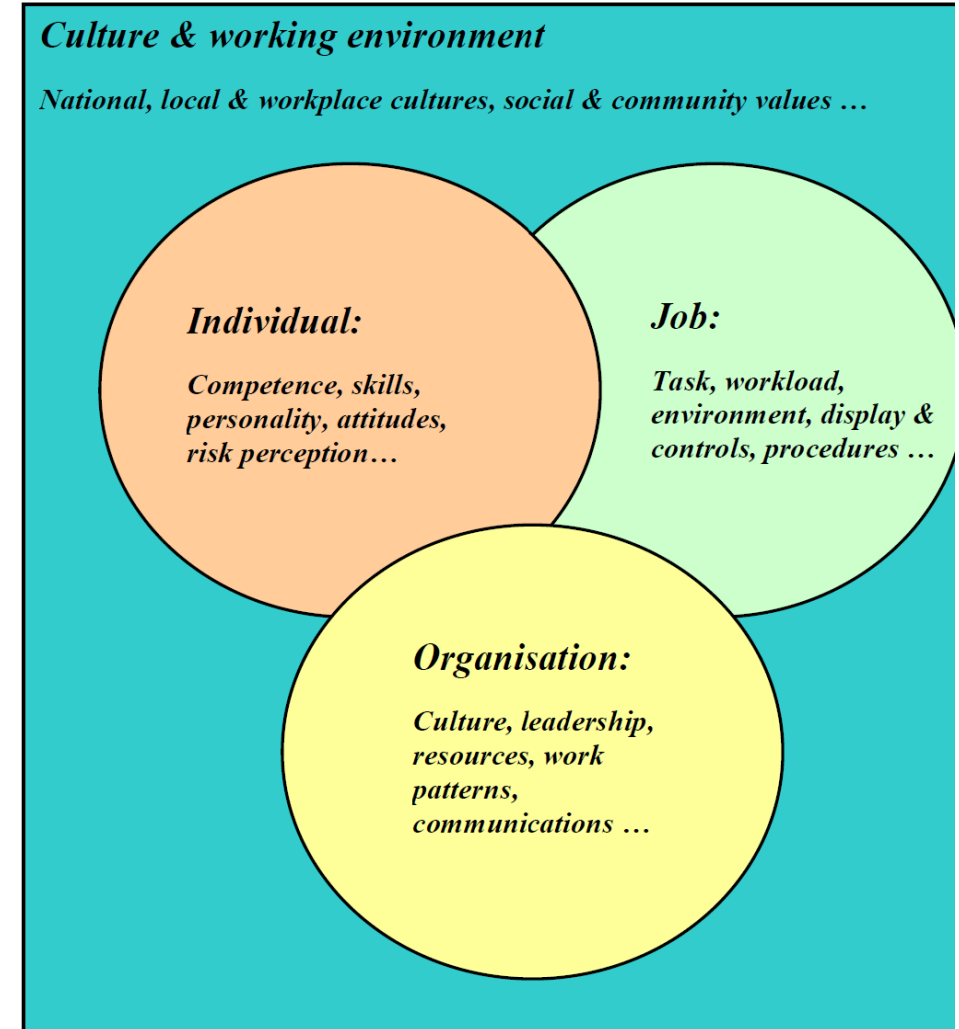
- Implement effective training programs to enhance skills and competence to deal with circumstances.
- Observe the attitude, motivation, physical capability and mental condition.

Job Factors

- Provide correct instruction and information, tools and equipment.
- Make adequate preparation for tasks, e.g., permits, risk assessment, pre-checking.

Organization Factors

- Promote visible management leadership and employee involvement at all levels.
- Enhance the effectiveness of communication and organizational learnings from experiences



(Courtesy: U.K. HSE Human Factors Toolkit – Introduction to human factors)

Blame Hinders Learning 責備阻礙學習

- **Blame is always destructive**
- **Destroys opportunity for improvement**
- **Decreased trust and less communication**
- **Less confidence on being treated fairly**



Response Matters 反應很重要

Take the chance to learn, improve, build trust and engage when something goes wrong



Management



- Provide sufficient resource to support frontline supervision
- Encourage good practice in workplace to foster a positive safety culture
- Participate management visits to understand the real situation and listen to frontline workers
- Demonstrate a strong Commitment to safety



Supervisor



- Respond promptly to safety matters
- Provide advice on safety practices to enhance safety performance
- Maintain high safety standards in all work activities
- Serve as a role model for safety
- Stop or pause work when unsure and unsafe
- Regular review working procedure



Everyone



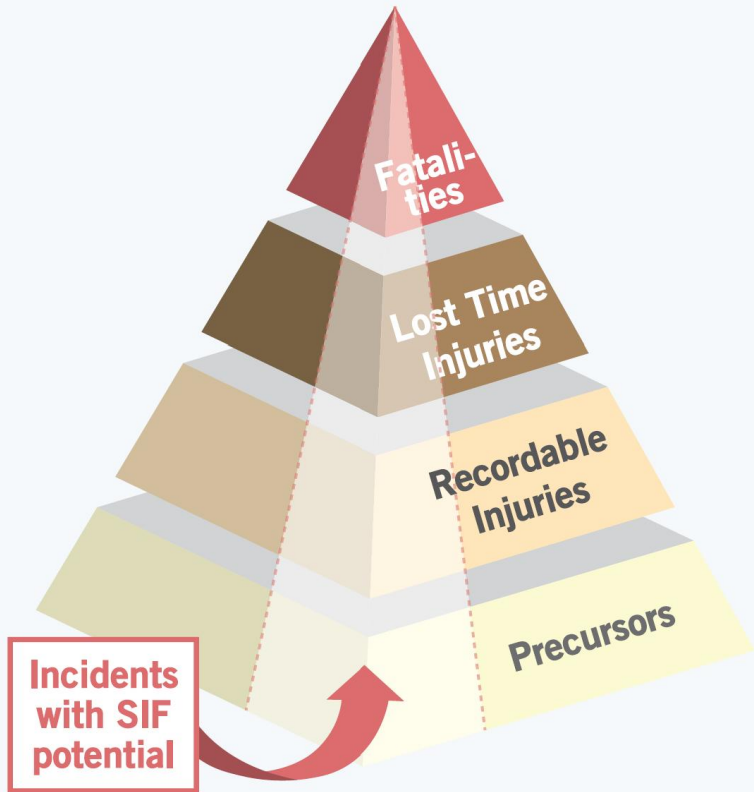
- Don't walk by
- Actively report unsafe conditions to your supervisor
- Maintain high situational awareness
- Work together to enhance safety
- Comply with safety requirements and standards

Leadership Engagement in Preventing Incidents

領導層參與預防事故



The SIF Prevention Model 預防嚴重傷害模型



(Courtesy: Campbell Institute 2018 - Serious Injury and Fatality Prevention: Perspectives and Practices)

- Not all incidents are equal in terms of their potential for resulting in Serious Injury & Fatality (SIF).
- Incidents with the potential for SIF have different **root causes** and require different **strategy**.
- By focusing efforts on discovering and controlling SIF potential, we are **being proactive** in preventing the Actual SIF.
- Placing more attention to SIF potential metrics provides a **better picture of the state of safety** in an organization.

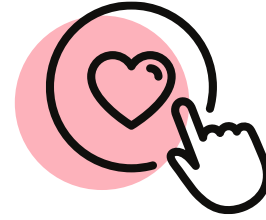
How can Leaders drive SIF Prevention?

領導者如何推動預防嚴重傷害？

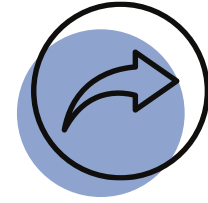
Context Drives Behaviors
情境影響行為



Safety Culture



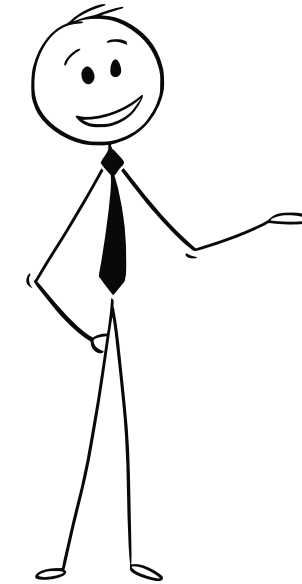
Work Environment



Continuous Learning



Expectations and resources



Leader

Leaders should cultivate a **Positive** context to encourage **Positive** behaviors.

Leadership Engagement 領導層參與

Questions:

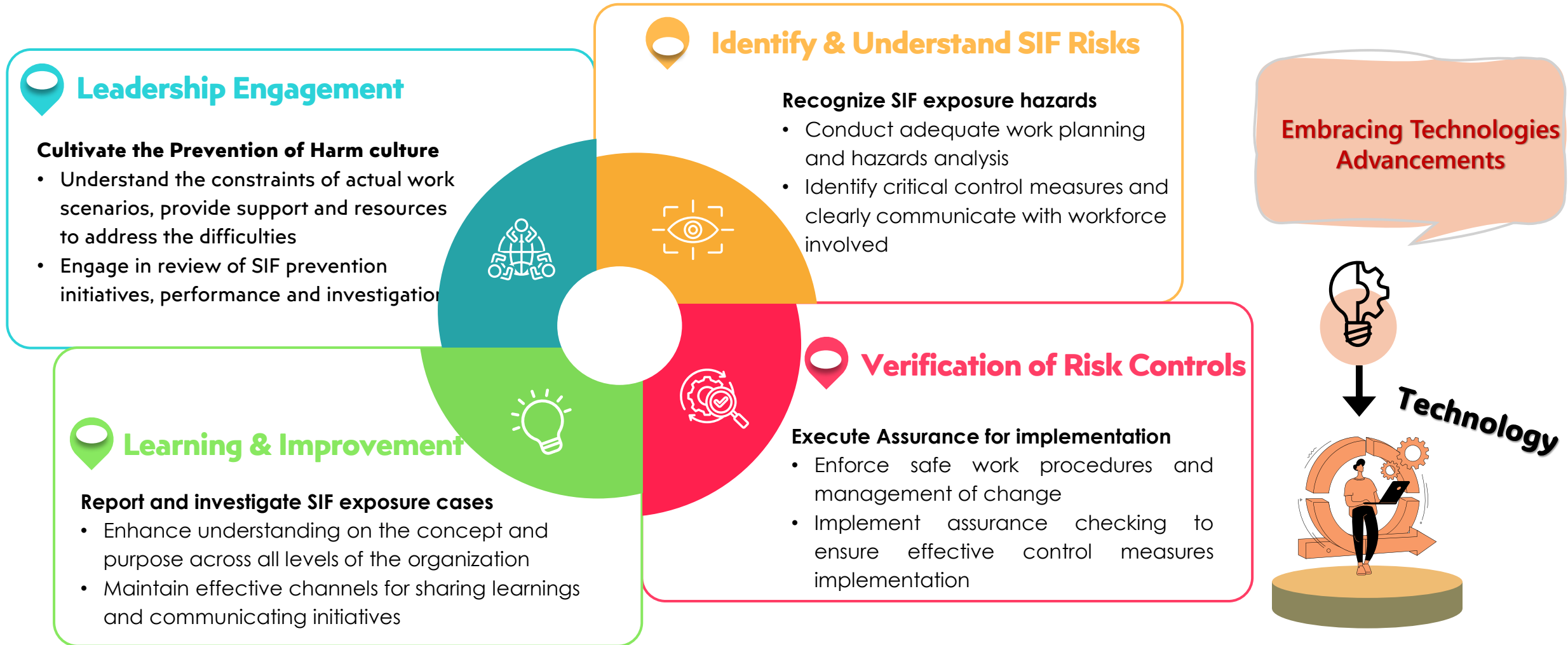
- What daily leadership actions and engagement practices will **reinforce** a culture of SIF prevention?
- How do these actions and practices **influence** frontline's hazard recognition, proactive risk control and decision-making?

Leadership Engagement 領導層參與

Examples:

- Leaders **consistently engage with frontline teams** to demonstrate commitment to safety.
- Daily practices like **asking about safety concerns, recognizing safe behaviors, and following through on feedback** build trust.
- Leadership visibility through **site visits, open dialogue, and active listening** encourages hazard reporting and proactive risk management.

SIF Prevention Framework 預防嚴重傷害框架



Summary: Improving Human Performance

摘要：提升人為表現

- Broaden understanding on **factors** affecting safety performance
- Build **system** defenses
- Enhance **leadership** roles
- Build a positive **learning and improving** organizational culture
- Engage the **frontline** to develop safeguards
- Apply and promote **error-prevention tools** to minimize work risks



Key Traits of Good Safety Leaders

優秀安全領導者的關鍵特質



4 Key Traits of Safety Leadership 4項安全領導力關鍵特質

- ❑ **Visibility:** Showing up in the workplace and demonstrating visible leadership, including participation in work tasks and the implementation of rules and company safety policies.
- ❑ **Communication:** Developing open, honest, and trusting relationships through effective communication with employees, listening to their voices, and incorporating their suggestions.
- ❑ **Proactive Management:** Taking actions on safety matters, recommending effective countermeasures and reward mechanisms, and fostering an open environment for incident reporting and taking appropriate follow-up actions for incidents.
- ❑ **Encouraging Participation:** Involving employees in safety planning and decision-making fosters greater employee ownership and responsibility.

The Challenges of Safety Leadership 安全領導力挑戰

Production First

Enterprises' pursuit of profitability, has left safety leaders without a say.

Time Allocation

Safety leaders lack sufficient time to devote to safety-related work.

Challenges

Inherent experience and perception hinder safety leaders from influencing others.

Safety leaders lack sufficient safety knowledge, capabilities and work skills.

Misconception

Lack of Safety Skills

Essentials for Good Safety Leaders 優秀安全領導者的必備素質

Essential 1: Leaders Value Safety 安全價值觀

Priorities vs Values

- What does “safety first” mean?
- What is the difference between “first” and “value”?



Essentials for Good Safety Leaders 優秀安全領導者的必備素質

Essential 2: Leaders Know how to Communicate 懂得溝通

- Leaders aim to **build and strengthen relationships** with workers through effective safety communication.
- Unsafe practices and incidents are not always caused by workers. The root cause may lie in inappropriate **management decisions** and may affect the entire organization.
- Interestingly **engaging with workers** on the ground allows them to not only identify problems but also provide solutions.
- Establish an effective **upward communication mechanism** to encourage employee participation in creating a safe environment.

Essentials for Good Safety Leaders 優秀安全領導者的必備素質

Essential 3: Leaders Led by Example 率先垂範

- Leaders should take the lead in "**talking about**" safety culture, constantly embracing its core principles.
- Leaders should take the lead in "**modeling**" safety culture, setting a good example through both words and deeds.
- Leaders should take the lead in "**guiding**" safety culture, fostering a passionate and positive team.
- Leaders' behaviors send a **strong signal** to workers, influencing their actions.

Essentials for Good Safety Leaders 優秀安全領導者的必備素質

Essential 4: Leaders Walk the Talks 言行一致

- Consciously **adhere to** safety standards and procedures.
- **Don't compromise on safety**, once a potential hazard identified or concern that could lead to incident, relevant personnel must be alerted.
- Leaders should encourage workers to **stop work** if they feel unsafe.
- Leaders should actively fulfill their responsibilities and **demonstrate care** to workers' safety.

Essentials for Good Safety Leaders 優秀安全領導者的必備素質

Essential 5: Leaders Know Exactly the Organization's Risks 熟知風險

- Clarify **roles and responsibilities**, identify and manage safety risks.
- Plan, implement, and supervise **risk control measures** for workplaces and work activities.
- Create conditions to maximize the use of **safety resources**, such as funds, time, and manpower.
- Integrate safety management into **business decision-making** and implementation processes.

Summary : Good Safety Leaders' Behaviors

摘要：優秀安全領導者的行為

- **Include** safety issues in high-level management meeting agenda
- **Ensure** clear communication of management's commitment through an open, two-way information flow
- **Prioritize** safety over other objectives, being visible at worksites to emphasize the importance of safety
- **Act** as role models, and **implement** safety policy, standards and practices consistently
- **Allocate** adequate resources to safety, and **exercise** regular monitoring and review of incidents and performance
- **Value and care** for employees, and **empower** them to take ownership of safety
- **Recognize** good safety performance, and **reinforce** positive safety practices
- **Build** a learning, improving and just culture

*Leaders are shaping the safety culture,
which ensures adequate capacity for dynamic
risks management in an organization.*

Thank you

