

# SAFETY MANAGEMENT SYSTEMS (SMS) OVERVIEW

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Excerpts from MITRE's  
5-day *SMS Principles* class

[https://mai.mitrecaasd.org/sms\\_course/](https://mai.mitrecaasd.org/sms_course/)

**MITRE**

**SOLVING PROBLEMS  
FOR A SAFER WORLD™**



# Part 1

## WHY HAVE A SYSTEM FOR SAFETY MANAGEMENT?

# WHY A SAFETY MANAGEMENT SYSTEM (SMS)?

- I have no idea, SMS is just the “flavor of the day”
- To keep the regulator happy
- A regulation may be coming, let’s get ahead of it
- To protect our organization from unacceptable risk

An **effective** SMS requires:

1. A focus on **Organizational Issues**
2. A **Positive Safety Culture**



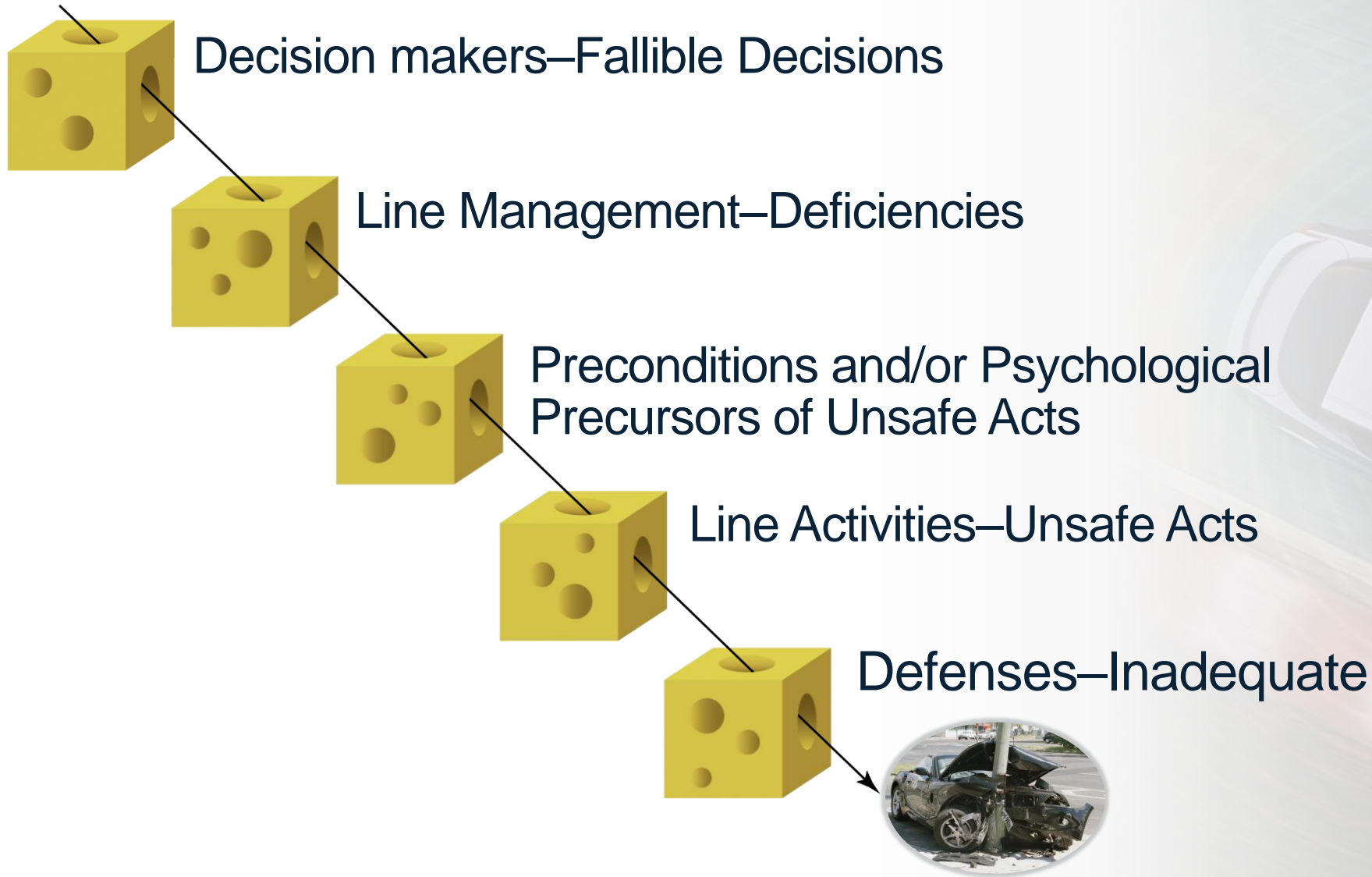


# Part 2

## THE ORGANIZATIONAL ACCIDENT

# ORGANIZATIONAL FAILURE MODEL

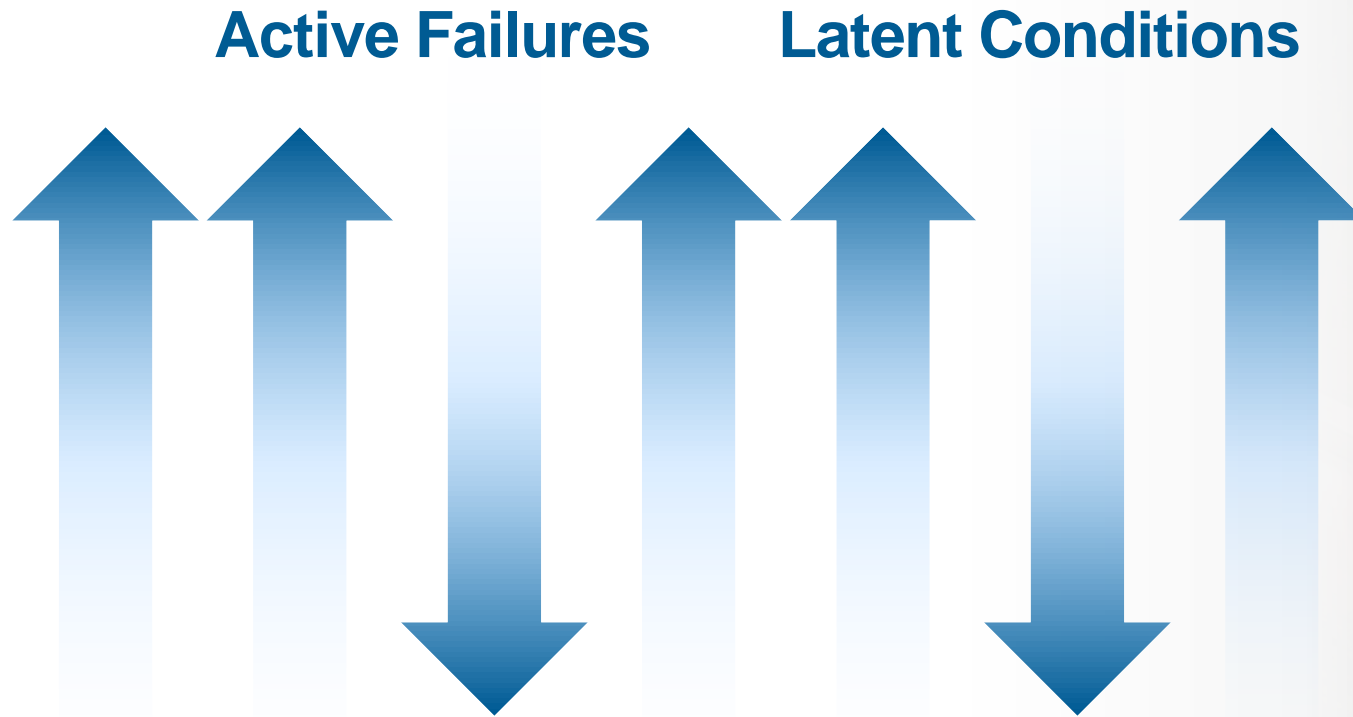
PROFESSOR JAMES REASON, UNIVERSITY OF MANCHESTER





# THE ORGANIZATIONAL ACCIDENT...

...has two components:



# THE ORGANIZATIONAL ACCIDENT...

...is an **accident** that has, as its **root causes**:





# Part 3

## **POSITIVE SAFETY CULTURE**



# SAFETY SYSTEMS, CLIMATE AND CULTURE

## SAFETY SYSTEMS:

- How safety is managed
- An engineering approach

## SAFETY CLIMATE:

- How people feel about safety and its management
- An explicit measurement of attitudes

## SAFETY CULTURE:

- What people **believe** and accept as normal working practice
- An implicit expression of commonality



# THE KINDS OF ORGANIZATIONS WE WORK IN...

...or **With**





# CHARACTERISTICS OF ORGANIZATIONAL CULTURES

	Pathological	Bureaucratic	Generative
Information	Hidden	Ignored	Sought
Messengers	Shouted	Tolerated	Trained
Responsibilities	Shirked	Boxed	Shared
Reports	Discouraged	Allowed	Rewarded
Failures	Covered up	Merciful	Scrutinized
New ideas	Crushed	Problematic	Welcomed
Outcome	<b>Conflicted organization</b>	<b>“Red tape” organization</b>	<b>Reliable organization</b>

Source: Ron Westrum

# ASPECTS OF POSITIVE SAFETY CULTURES

## **Informed:**

People are knowledgeable about the human, technical, organizational and environmental factors that determine the safety of the system as a whole.

## **Reporting:**

People are prepared to report their errors and experiences.

## **Positive Safety Culture**

## **Just:**

People are encouraged (even rewarded) for providing essential safety-related information. However, there is a clear line that differentiates between acceptable and unacceptable behaviour.

## **Flexible:**

People can adapt organizational processes when facing high temporary operations or certain kinds of danger, shifting from the conventional hierarchical mode to a flatter mode.

## **Learning:**

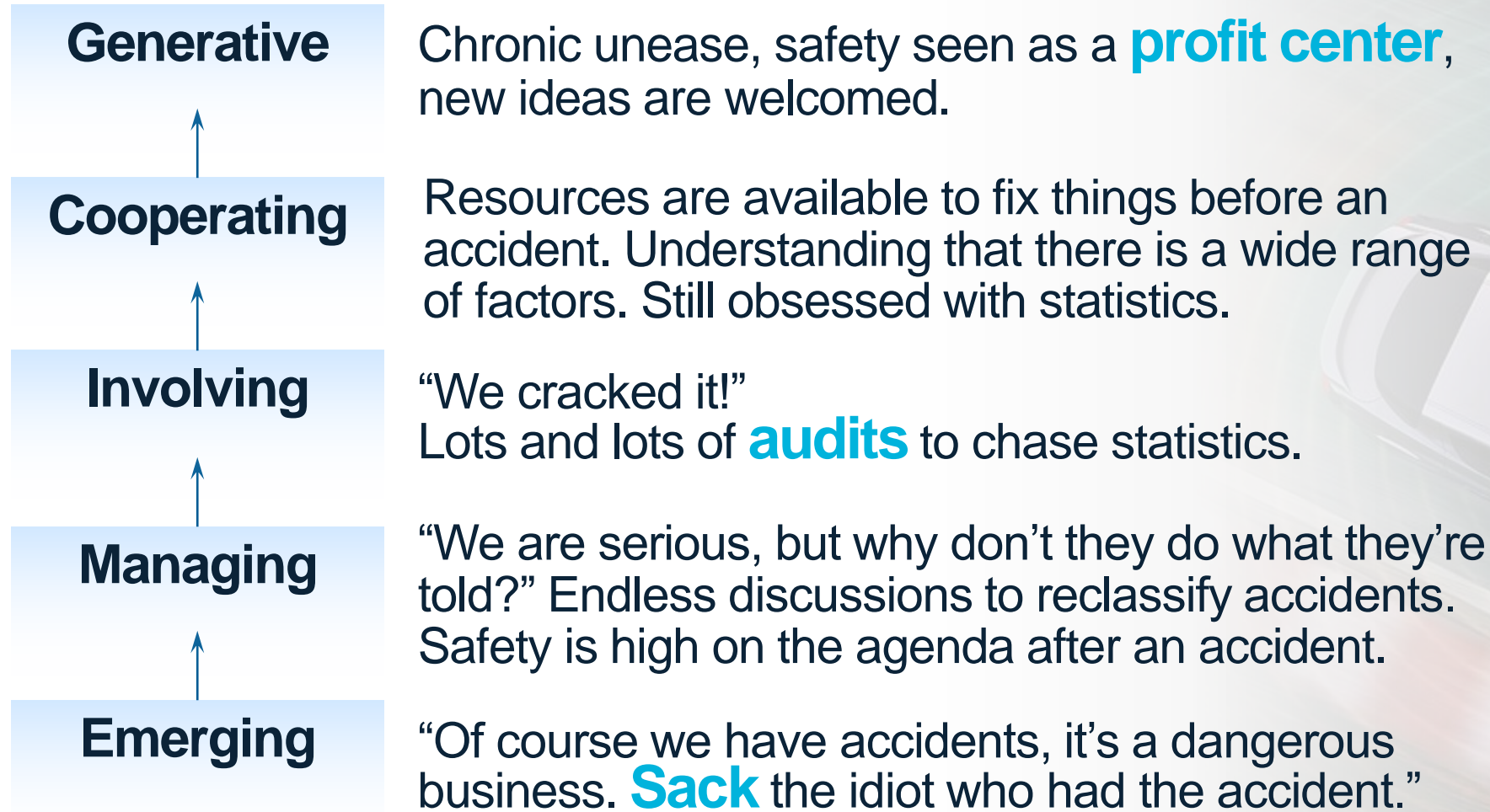
People have the willingness and the competence to draw conclusions from safety information systems and the will to implement major reforms.

Reference: *Managing the Risks of Organizational Accidents*, James Reason, Ashgate, 1997





# INDICATORS FOR SAFETY CULTURE MATURITY



Source: Patrick Hudson

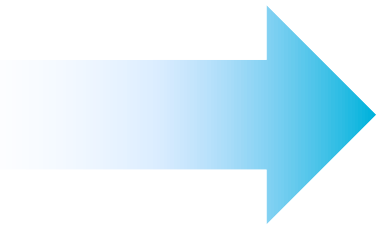
# Part 4

## **INTRODUCING A SAFETY MANAGEMENT FRAMEWORK**



# THE SAFETY MANAGEMENT SYSTEM

- **SMS** methods treat safety as a **core business function**
- **Proactive**
- **Tailored** to each company



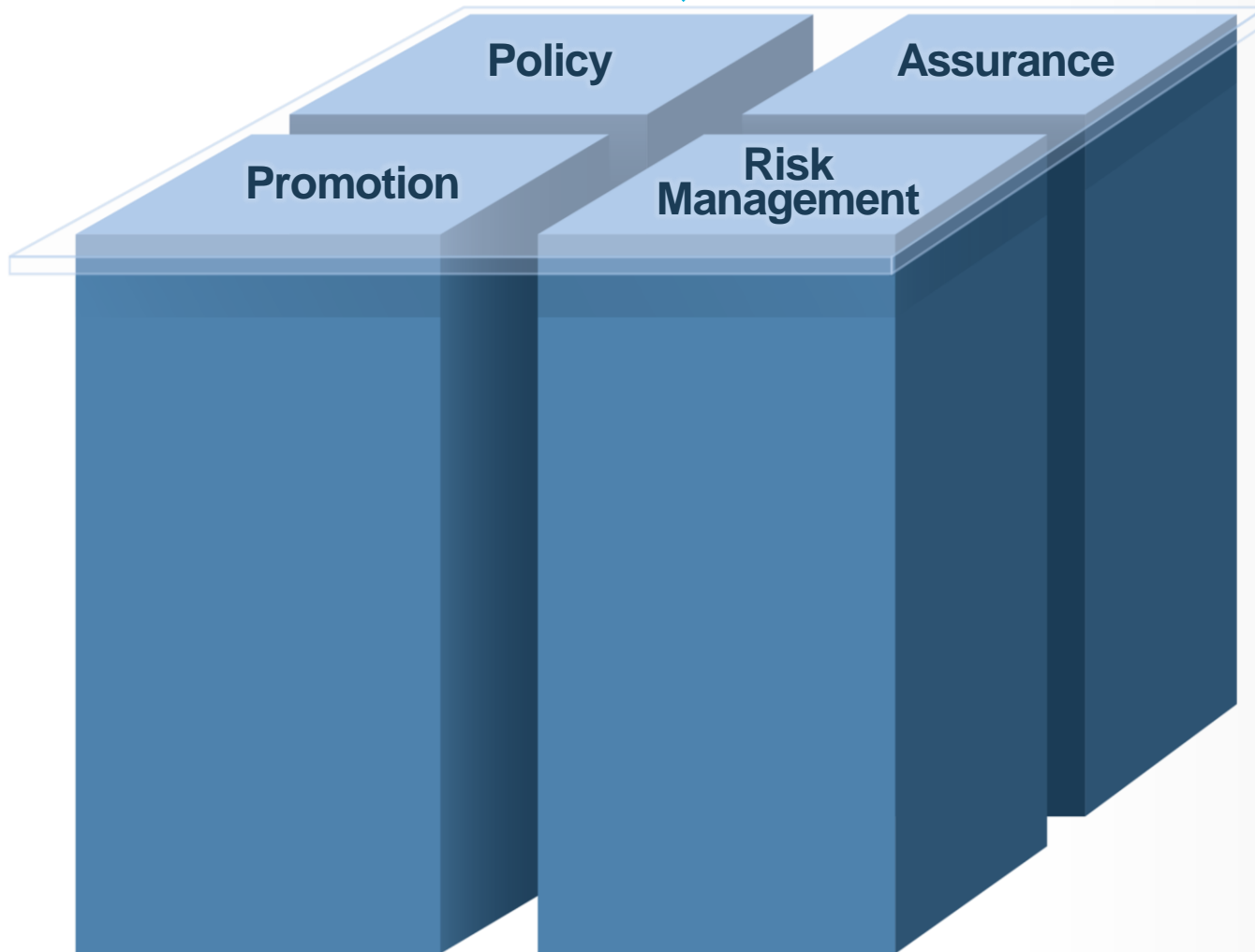
**The way of our future!**



- **Provides a systematic way to**
  - 1. Control risk**
  - 2. Provide assurance** that risk controls are effective

# THE FOUR PILLARS OF A SAFETY TABLE

Overview





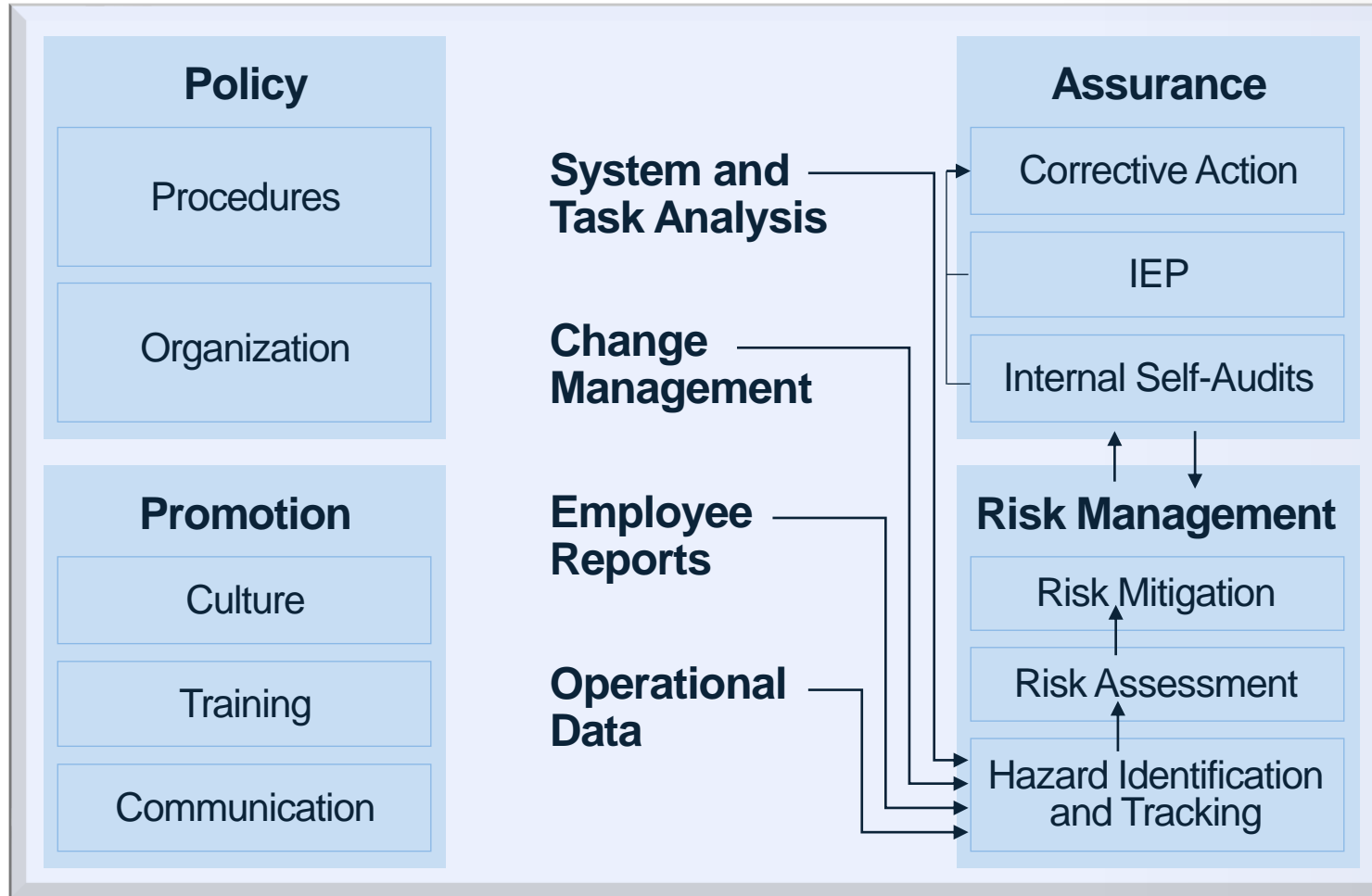
# OVERVIEW OF SAFETY TABLE PROCESSES

(TOP VIEW)



# OVERVIEW OF SAFETY TABLE PROCESSES

(TOP VIEW)





# INFORMATION FOR DECISION MAKING

**Safety assurance information comes from a variety of data sources, including:**

- Continuous process monitoring of day-to-day activities and operations (including in-service)
- Investigations of safety-related events
- Formal auditing and evaluation programs
- Inputs from employees, contractors and customers through voluntary reporting systems
- Inputs from the regulator
- Monitoring of external changes that affect the operation

# Part 5

## QUESTIONS ?



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